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Original Articles.

FRACTURES INTO AND ABOUT THE ELBOW JOINT.*

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Fractures involving the elbow joint, if not properly treated, will often result in impairment of function, amounting in some cases to complete ankylosis, and when we consider that even slight limitation of the movements of this joint may incapacitate an individual from following the trade of his choice, it behooves us to not neglect even apparently trivial injuries of this joint. Motion is limited by either a malposition of the fragments, the overproduction of callus or the interposition of bone fragments in the joint cavity.

The overproduction of callus is sometimes difficult to avoid; but unless the bone be comminuted we can maintain the proper relation of fragments by either nails, wire, staples or plates, and any piece of bone which finds its way into the joint cavity should be removed. Opening of the joint is fraught with much less danger, so far as the subsequent motion is concerned, than leaving the fragments in faulty positions or loose pieces of bone in the cavity.

Before discussing the diagnosis of elbow-joint injuries I will briefly recall the anatomy of these parts, because without this knowledge we are absolutely unable to correct intelligently any of the various injuries which might befall this joint.

The elbow is a hinge joint; the bones entering into its formation are the trochlear surface of the humerus, which is received into the greater sigmoid cavity of the ulna, and admits of the movements peculiar to this joint, viz., flexion and extension; while the lesser, or radial head, of the humerus articulates with the cup-shaped depression on the head of the radius; the circumference of the head of the radius articulates with the lesser sigmoid cavity of the ulna, allowing of the movements of pronation and supination. The articular surfaces are covered with a thin layer of cartilage and held together by means of a capsular ligament, which is thicker on the sides than in front or back. The joint is lined with a synovial membrane, which is attached to the inner surface of the capsular ligament and reflected on the articulating surfaces of the bones, lining the olecranon and coronoid fossæ, and being continuous with the synovial membrane lining the superior radio-ulnar articulation.

On each side of the lower end of the humerus is found a prominence, the external and internal condyle, the internal being much larger than the external, and therefore more liable to injury.

The articular surface of the humerus is divided by a ridge into two parts, the internal extending lower than the external and known as the trochlea articulating with the greater sigmoid cavity. The outer part is called the radial head or capitellum and articulates with the upper end of the radius. The fact that the trochlea projects below the capitellum produces what is known as the carrying angle of the elbow, so that when the arm hangs naturally with the palm forward there is an angle of ten degrees at the elbow, enabling one to carry a bucket and at the same time rest the elbow on the trunk. Above the trochlea in front is a depression, the coronoid fossa into which fits the coronoid process of the ulna, the olecranon being received into the olecranon fossa just above the trochlea behind. The upper end of the ulna presents two processes and two cavities, the olecranon process is a thick curved piece of bone which is continuous with the posterior border of the ulna and gives attachment to the triceps muscle and the posterior portion of the capsular ligament of the joint; the coronoid process projects horizontally forward from the upper and front part of the ulna, giving attachment at its base to the brachialis anticus and the anterior portion of the capsular ligament. The greater sigmoid cavity is formed by the olecranon and coronoid processes, the lesser sigmoid cavity is a narrow depression in the outer side of the coronoid process which articulates with the side of the head of the radius. The upper extremity of the

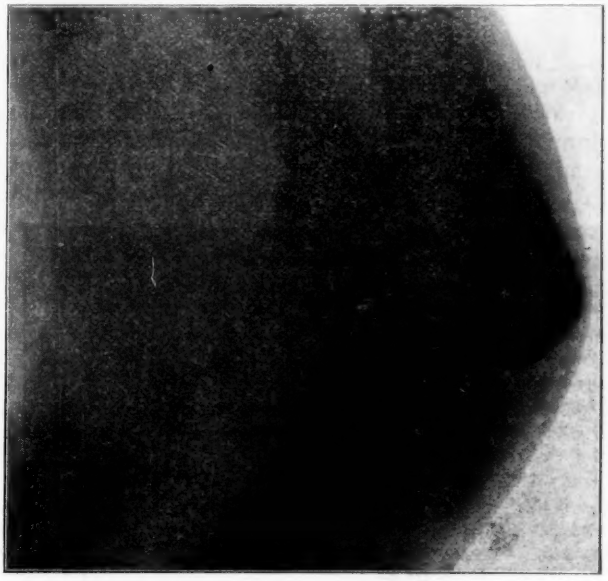

Fig. 1.—Before operation.

* Read before the Alameda County Medical Association at the October meeting.

radius is called the head and presents a shallow depression on top; the circumference of the head is round and smooth and rotates in the lesser sigmoid cavity, being held in place by the orbicular ligament.

A knowledge of the development of the ends of these bones is of great importance in the treatment of fractures in children, and the text-books give only a general idea

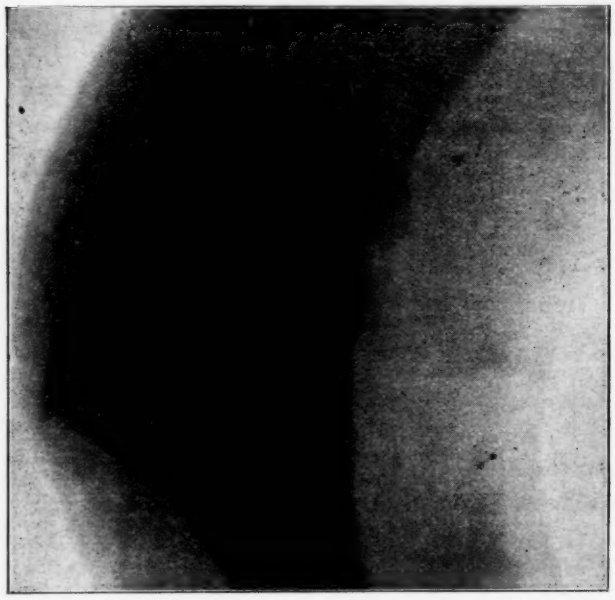

Fig. 2.—Before operation.

of the time and manner of development. I have taken a large number of skiagraphs of elbows of children, the ages varying from 1 to 15 years, and I find that the beginning of ossification in the various centers depends, not only on the age, but on the general development of the child. In some cases a center of ossification would

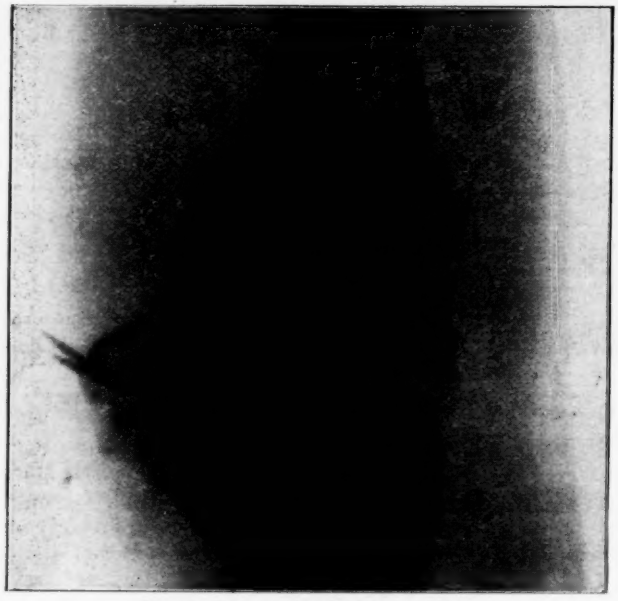

Fig. 3.—Two weeks after operation.

show three years in advance of the text-book time, and in others would be later. It was noticed, however, that, as a rule, the *x*-ray showed the ossific center at least one year sooner than the books would expect.

The diagnosis of fractures of the elbow joint can not be accurately made without the *x*-ray. I do not mean to be understood that the *x*-ray takes the place of palpation or that a correct diagnosis can be made by anyone by simply looking at a skiagraph of an injured joint; but I do say that, without one or more well-made skiagraphs taken in the proper planes, no surgeon can venture to make an accurate diagnosis of fractures involving the elbow joint.

In fractures of the shafts of long bones we often get functionally good results, even when the fragments have not been accurately adjusted, but in fractures involving the joints, and especially the elbow joint, we can not expect any such results, and we must see that all the broken parts are placed in their normal positions and retained there until union has taken place.

The following case is of interest on account of its rarity; I have not been able to find one recorded which was similar in character:

G. M., aged 16, was sent to me for examination three weeks after having received a fall on the elbow. The arm had been treated by means of a right-angled splint, which had been removed every few days and readjusted. At the end of three weeks the joint was found to be immovable, allowing neither extension nor flexion. Pronation and supination were almost

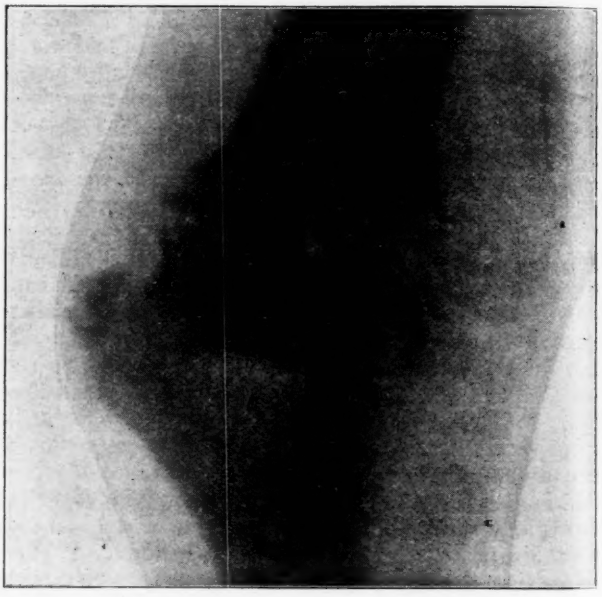

Fig. 4.—Nine weeks after operation.

normal. The carrying angle was very much increased, and the internal epicondyle was much flatter than that of the other arm. Slight crepitus was elicited while making pronation or supination. Two *x*-ray plates were taken at different angles, and showed that the internal epicondyle had been broken off and was lying between the trochlea and the greater sigmoid cavity, with the broken surface in contact with the cavity. The capitellum showed a small piece chipped off, but in proper position.

Operation was advised and accepted. An incision was made directly over the internal condyle down into the joint, and the epicondyle found exactly as shown by the *x*-ray. The flexor and pronator tendons were still attached to it, and their function had not been impaired. The internal lateral ligament had, of course, been torn through and the ulnar nerve was found surrounded by inflammatory tissue, and was dissected loose. The epicondyle was lifted from its position with great difficulty, first on account of the adhesions which had formed and also because it could not be tightly grasped without danger of crushing.

After its liberation it was found that the muscles had contracted to such an extent that it was impossible to bring the fragment to its original position, and it had to remain about one-fifth of an inch lower down than normal. While

in this position I drove two wire nails directly through the epicondyle into the condyle, being careful to avoid entering the olecranon or coronoid fossa. The lateral ligament was brought together with catgut, and the skin with silkworm gut, leaving the heads of the nails protruding.

The arm was put up in a straight splint and left for two weeks, after which one nail was taken out and passive motion begun; the other nail was removed one week later. There was considerable callus surrounding the humero-ulnar articulation, but under massage this is gradually diminishing and the patient is at present, nine weeks after the operation, able to move the joint without much pain, and can extend the forearm almost to a straight line and flex it to beyond a right angle. There is yet some callus to be absorbed, and we may expect that after another month or two the arm will be in almost perfect condition. The carrying angle is still too great, showing that there is some thickening of the synovial surfaces between the ulna and humerus. The small piece which was chipped off from the capitellum is causing very little, if any, disturbance, and appears to be united to the humerus in good position.

To obtain skiagraphs which will show accurately the injury to an elbow we place the arm with the two condyles of the humerus on the same plane as the plate,

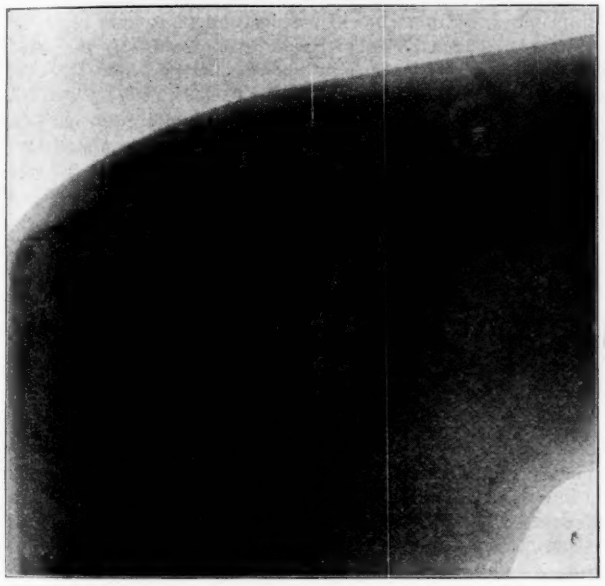

Fig. 5.—Nine weeks after operation.

and the forearm extended as far as it will go, this will show any fracture of the lower end of the humerus, or of the condyles, but will not give an accurate idea of the direction of oblique fractures which run in an antero-posterior direction. It will therefore be necessary to take another skiagraph, with the plane of the condyles at right angles to the plate, and the forearm flexed at almost a right angle and the hand pronated. It may be impossible in some varieties of injuries to get the arm in these positions, but we should strive to come as close as possible, because if we habituate ourselves to certain positions and relations we can with greater ease detect any deviation from the normal, and right here let me remark that no one is capable of interpreting a skiagraph of an injured bone or joint who has not made a study of the skiagraph of bones and joints which are known to be normal.

In diagnosing elbow injuries in children under 18 years of age it is absolutely necessary to take pictures of the sound as well as the affected side, on account of the fact that the epiphyses are either entirely cartilaginous or not yet united to the shaft of the bone. It may be difficult to tell whether there has been a dislocation of one of the epiphyses by either palpation or *x*-ray if there is no deformity, but by comparing the skiagraphs of the two sides the slightest abnormality can be detected, and I find it better in all cases to keep the arm splinted for at least two weeks when the child complains of pain or shows a disinclination to use the arm.

Fractures of the olecranon are best treated by driving a long wire nail through the tip of the process down into the shaft of the bone; this may be done without cutting if the fragment can be properly adjusted and there is no blood between the pieces, otherwise it is better to cut the skin and clean out the blood first. Broken-off condyles are retained in position by means of steel staples, one prong of which is driven into the shaft of the bone and the other prong into the fragment. In using staples or nails which have to enter the compact tissue of the bone it is necessary to drill holes before driving them in, being careful that the holes are just small enough to hold the nail or staple tightly. In cancellous bone nails may be driven in without drilling.

First make your diagnosis, then adjust the fragments, and if a splint will not retain them in proper position, make fixation as I have indicated, being particularly careful as to your asepsis, and your results will be very much superior to those obtained by the expectant plan.

590 Sutter Street.

A CASE OF SUCCESSFUL REMOVAL OF AN ENLARGED SPLEEN,

WITH TWISTED PEDICLE, ADHERENT TO THE RIGHT SIDE OF THE PELVIS, IN A WOMAN PRESENTING MULTIPLE NODULATION AND PIGMENTATION OF THE SKIN.

J. CLARENCE WEBSTER, M.D.
CHICAGO.

WITH REMARKS ON THE MEDICAL ASPECTS OF THE CASE.

THEODORE TIEKEN, M.D.
CHICAGO.

NARRATION OF THE CASE.

Mrs. W., Jewess, housewife, aged 38, was admitted to my service in the Presbyterian Hospital, Chicago, Aug. 25, 1902, with pain in the pelvis and lower abdominal region, generally of a dull, aching character, varying in intensity and radiating occasionally to different portions of the upper abdominal and thoracic regions.

The pain is most marked in the right iliac region, where there is a swelling which varies in size and consistence from time to time. The latter is usually tender when palpated. There is always great aggravation of her suffering during menstruation.

She also complains of frequent and occasionally painful micturition, shortness of breath, intense headaches, swollen feet, leucorrhea, and of occasional bloody stools. She also complains of a swelling in the region of the navel, of discoloration and nodulation of the skin.

Duration and History.—The patient states that she first noticed the swelling in the right iliac region 17 years ago, after the birth of her first child. It was then flat and about as large as her hand. It gradually increased in size, becoming more and more painful and sensitive to pressure. Eight years ago she was seized with intense agonizing pain of a colicky nature, and ever since has suffered from similar attacks every two or three months; they usually last one or two days, and the patient is compelled to inhale chloroform in order to obtain relief.

Frequently after the attacks the urine was noticed to be dark, reddish-brown in color and somewhat foul-smelling.

As it was voided there was usually smarting in the bladder and urethra. The iliac swelling at other times became smaller, less firm in consistence and less tender.

The pigmentation and nodulation of the skin have been present for many years. They began to appear about a year after the development of the swelling in the right side.

Four years ago, an abdominal section was performed in another hospital and the patient states that the operator informed her that the swelling was an inoperable tumor of the right kidney and that nothing could be done. A few months after this operation the abdominal wall cicatrix began to stretch and a ventral hernia gradually developed.

Sexual History.—Menstruation began at 13. The type has always been irregular until the time of operation four years ago; ever since it has been fairly regular, of the 28-day type. The duration is usually 5 days, the flow being profuse. There has always been some pain in connection with the periods, most marked immediately before and after. Since the appearance of the swelling in the right iliac region, the pains have been very severe at menstrual periods. She states that at these times she frequently passes blood in her stools.

Previous History.—In early life she had various diseases of childhood. As a young woman she lived in the south and had malarial attacks several times. At the age of 22 she had pulmonary hemorrhages during a period of eight months, losing considerably in weight at the time; five years ago she was also similarly troubled for several months. She coughs occasionally, and states that she "catches cold in her chest" easily. At the age of 26 she had typhoid. For many years she has been troubled at times with pains in various joints; they have sometimes swelled and become very painful. She states that on two or three occasions she has been jaundiced.

Family History.—Her father was alive when she last heard of him, two years ago. Her mother died at 66 of measles. She has two sisters who are well. Several members of her father's family have had tuberculosis.

State on Admission.—The patient is somewhat poorly nourished and has a haggard expression. The skin of the face is of a light brown hue, the pigmentation varying in different parts. The trunk is also pigmented, there being a generally diffused light brown tint, as well as patches of deep brown, varying in size from one to six or eight centimeters in diameter. Many cutaneous nodules, varying in size from a pin head to a marble, are also visible. Some are entirely below the surface, some bulge the latter slightly, others are sessile or pedunculated.

Abdomen.—In the middle line there is a vertical scar extending downward five inches from a little above the navel. The latter is everted and stretched as is the scar tissue. The recti muscles are 3½ inches apart in the region of the navel as the patient lies on her back. In the erect posture the intestines bulge between the muscles, forming a hernia in almost the whole length of the scar. In the right iliac region a swelling is visible, being very prominent. It is firm in consistence and can not be moved. The patient states that it is tender when it is palpated firmly. Its upper end is about 2 in. above the level of the anterior superior iliac spines. It descends below the pelvic brim, where it is in close relation to the right half of the retroverted uterus.

Bimanual Examination.—The uterus is somewhat enlarged, retroverted and fixed. The appendages are matted and fixed at the sides of the uterus and are somewhat sensitive. The right half of the pelvis is occupied by the lower portion of the iliac swelling. It is close to the uterus with which it appears to be connected.

Examination of Blood.—(Made by Drs. Farnum and Barnhardi.) Erythrocytes per c.mm., 4,016,000; leucocytes per c.mm., 16,800; hemoglobin, 70 per cent.

Urinalysis.—Amount in 24 hours 400 c.c., sp. gr. 1,010, acid. Slight trace of albumin, a few leucocytes and epithelial cells. Some erythrocytes. A few hyaline casts. Urates.

On August 29 the interior of the bladder was examined. The mucosa was normal save behind the trigone, where there was a small, deeply-congested area.

The ureters were catheterized. The left catheter was easily passed. The right one met with an obstruction about 3 inches above the bladder, but, after a little manipulation was passed upward about 10 inches. The catheters were left *in situ* for 1¼ hours. The specimens of urine differed somewhat, as follows:

RIGHT SPECIMEN.	LEFT SPECIMEN.
Very turbid.	Quantity 3½ times that of the right side.
Consid. serum-albumin.	Slight serum-albumin.
Urea 1.3.	Urea 1.7.
A few hyaline casts and one blood cast.	No casts.
Small transitional epithelial cells.	
Many erythrocytes.	Some.
Few leucocytes.	Few.

Temperature and Pulse.—The temperature varied considerably while the patient was in hospital. It was usually normal, but frequently varied from 99 to 102. The pulse varied greatly, from 72 to 120.

X-ray examination of the abdomen and pelvis revealed no calculus.

The patient was kept under observation until September 9, when she was sent home.

Treatment.—She was placed on milk diet, a mixture of sodium iodid, sodium chlorid and sodium phosphate being administered. The daily quantity of urine gradually increased. Slight variations in the size and sensitiveness of the iliac swelling were noted from time to time.

September 17 the patient returned to hospital and was prepared for abdominal section. Previous to operation the hemoglobin was 80 per cent. and the leucocytes 8,800 per c.mm. The 24-hour quantity of urine was 2,000 c.c.; no casts were found in it and only a few erythrocytes and leucocytes.

Operation.—September 25 the abdomen was opened in the middle line. Both kidneys were found to be normal in size and position. The liver was normal. The stomach and transverse colon were lower than normal. Anterior to the iliac swelling were small intestines and omentum. The latter enveloped a considerable portion of the swelling and was widely adherent to it, as well as to the parietes and pelvic viscera.

The swelling proved to be an enlarged spleen. It was adherent to omentum, intestines, iliac fossa, bladder, right appendages and uterus. The vermiform appendix was enlarged and buried in adhesions on the posterior surface of the spleen. Extending from the hilum of the spleen a rope-like band extended upwards and to the left towards the celiac axis. It consisted of the twisted splenic vessels. I estimated that the pedicle of the spleen had in it between two and three twists. The vein was enormously enlarged, especially near the spleen, where its diameter was nearly an inch. The uterus was retroverted and the appendages buried in adhesions. The small intestines and sigmoid flexure were firmly adherent to the uterus and broad ligaments.

After removing a large portion of the omentum, the adhesions around the spleen were separated with some difficulty. The vessels in the pedicle were secured with catgut, and the spleen was removed. As the patient's pulse had become very rapid and irregular, it was deemed advisable not to interfere with the pelvic organs. The abdomen was filled with salt solution and closed, the separated recti being well approximated.

The patient made a good recovery. During the first two days the pulse varied from 90 to 120, but thereafter was satisfactory.

On October 24 she returned home, feeling in good condition. There has been a considerable clearing up of the skin-pigmentation since the operation, but no change has been noticed in the nodules.

Report on the Spleen.—The spleen weighs 28 ounces and measures 7 in. vertically, 4 in. in breadth and 3½ in. in thickness. It is dark colored, the capsule is thickened and covered with adhesions and portions of omentum. Dr. Hamley's report as to the microscopic examination is as follows:

1. Marked congestion, uniform throughout the spleen, only a slight degree being observed within the Malpighian corpuscles.
2. A moderate increase in the connective tissue trabeculæ and walls of blood-vessels.
3. Some thickening of the capsule.
4. Mast-cells are very numerous.
5. In some parts there is increased pigmentation.

A few skin-nodules were removed for examination and Dr. Hamley reports on them as follows:

Each consists of fibro-cellular tissue, varying in compactness and in the character of the cells; the latter are mostly round. In some parts hyaline degeneration is found. Many mast-cells and plasma-cells are seen, the former not being found in the degenerated areas. Mitotic figures are occasionally noticed in the connective tissue cells. The nodules contain a few capillaries. The epithelium of the skin is considerably thinned over some of the nodules.

REMARKS ON THE CASE.

The case presents features of considerable interest. In the first place there was great difficulty in determining the nature of the iliac swelling. The patient's statement that her abdomen had been opened four years previously and that the operator had stated that the mass was an inoperable right renal tumor naturally biased our judgment. In view of the long duration of the swelling and its slow increase in size, malignancy could not come into consideration. If a new growth it seemed more likely to be some form of benign fibrous fibro-cystic or fibro-lipomatous swelling, similar to those described by Wilks, Bristowe, Billroth and others. Wilks in 1869 described such a tumor of the right kidney as large as a child's head, which had caused hematuria and pain for ten years. The pigmentation of the skin suggested an involvement of the suprarenal bodies.

The clinical symptoms, however, suggested strongly hydronephrosis of the intermittent type, associated with a calculus or with stricture or torsion of the ureter. There were severe crises of pain requiring the administration of chloroform, the swelling varied in size and became smaller when urine was passed after the attacks of pain. The urine was frequently dark as if containing blood, and on ureteric examination blood was found in it. The presence of leucocytes in the urine and the irregular elevation of temperature suggested an infective process in the supposed renal swelling. No stone was found on *x*-ray examination. The passage of a catheter for ten inches into the right ureter did not seem consistent with the supposition of ureteric torsion, especially when the kidney appeared to be partly within the pelvic cavity. An obstruction was felt a short distance above the bladder, but the catheter passed it without great trouble. The patient's statement as to the increase and diminution in the size of the tumor was then thought to be exaggerated or to be explained by a rising and falling, merely due to filling and emptying of the bladder. Slight variations in the size and consistence of the swelling were certainly observed by me, but were not at all marked. The possibility that the tumor might be a pedunculated uterine fibroid, a fibroma or dermoid of the ovary or a large right hydrosalpinx was considered, but only by conjecture. Such swellings might be of long duration and might cause pressure on the ureter, especially if associated with marked displacement of the pelvic viscera and cicatrizations following old peritonitic adhesions. It was never supposed that the swelling might be a spleen.

A wandering spleen may undoubtedly sometimes enter the pelvic cavity, and an enlarging spleen, e. g., in splenic anemia or leucocythemia, may descend into the pelvis on the left side and be mistaken for a tumor of pelvic origin. The present case is the only one recorded, so far as the writer has been able to ascertain, in which an enlarged spleen has become fixed in the right side of the pelvis.

The variations in the size of the tumor were probably associated with increase and diminution of the quantity of blood in the spleen, associated with disturbances in the circulation due to torsion of the pedicle. The attacks of pain were similar to those associated with torsion of the pedicle of ovarian and fibroid tumors, local peritonitis having developed leading to adhesions between the spleen and surrounding structures. Bland Sutton has pointed out that retroversion of the uterus may be caused by the descent of a wandering spleen into the pelvis. It is extremely likely that this relationship existed in the present case, the firm adhesions which covered the uterus and appendages having resulted from peritonitis secondary to splenic torsion.

MEDICAL ASPECTS OF THE CASE.

THEO. TIEKEN, M.D.

Blood Examination.—The first examination made was six days after operation, Sept. 30, 1902: Erythrocytes, 4,300,000; leucocytes, 22,000; hemoglobin, 60 per cent (Dare); color index, .69.

(*a*) The fresh specimen shows corpuscles to be of normal size, rather pale, no poikilocytosis. No malarial pigment or living organisms found.

(*b*) Stained specimen (Ehrlich's triacid mixture). Erythrocytes normal size, stained uniformly. No macrocytes; few microcytes; two normoblasts; no megaloblasts; no microblasts; no poikilocytosis; no myelocytes.

(*c*) Differential count of two hundred leucocytes: Small mononuclears, 14 per cent.; large mononuclears, 7 per cent.; transitional forms, 1 per cent.; polymorphonuclear, 77 per cent.; eosinophiles, 2 per cent; no mast cells.

Second examination, nineteen days after operation, Oct. 13, 1902: Erythrocytes, 4,408,000; leucocytes, 13,000; hemoglobin, 72 per cent. (V. Fleischl) 73 per cent. (Dare); color index, .80.

(*a*) Fresh specimen shows normal shape and size of red corpuscles, slightly pale; no malarial organisms or pigment seen.

(*b*) Stained specimen shows similar picture to No. 1; no myelocytes.

(*c*) Differential count of two hundred leucocytes: Small mononuclear, 13 per cent.; large, 17.5 per cent.; transitional forms, 1.5 per cent.; polymorphonuclear, 66.5 per cent.; eosinophiles, 1.5 per cent.; no mast cells.

Third examination, twenty-six days after operation, Oct. 20, 1902: Erythrocytes, 4,420,000; leucocytes, 11,200; hemoglobin, 77 per cent (V. Fleischl); color index, .82.

(*a*) Fresh specimen same as previous examinations; no malarial organisms.

(*b*) Stained specimen: two red corpuscles were found containing a ring of pigment very similar in appearance to the tertian malarial organism. Although unable to find organisms in the fresh specimen, these two were so characteristic as to leave but little doubt. There was no extra-corpuscular pigment in this specimen, which makes it all the more improbable that these were artefacts.

(*c*) Differential count of four hundred leucocytes: Small mononuclear, 12 per cent.; large mononuclear, 17 per cent.; transitional forms, 1.8 per cent.; polymorphonuclears, 65.2 per cent.; eosinophiles, 2 per cent.; no mast cells; no myelocytes.

One large mononuclear cell was seen with faint granules. Five normoblasts were seen while counting four hundred leucocytes.

Comparing the three differential counts we have the following:

	Per cent.	Per cent.	Per cent.
Small mononuclear	14	13	12
Large mononuclear	7	17.5	17
Transitional forms	1	1.5	1.8
Polymorphonuclear	77	66.5	65.2
Eosinophiles	2	1.5	2
Mast cells	0	0	0

Briefly summing up the differential counts made at different periods after operation, we see the following changes: A slight decrease in the small mononuclear elements; an increase in the large mononuclear type from 7 per cent. to 17 per cent.; a very slight increase in the transitional forms; a decrease in the polymorphonuclear type from 77 per cent. to 65.2 per cent.; no change in the eosinophiles.

I am sorry that it is impossible to compare the differential count before operation, as this was not made, because there was nothing to indicate the importance of such a step before discovering that the tumor was an enlarged spleen. The findings as indicated in the above examinations of the blood correspond so closely to those of previously reported cases of splenectomy that we need not dwell further on this part of the subject.

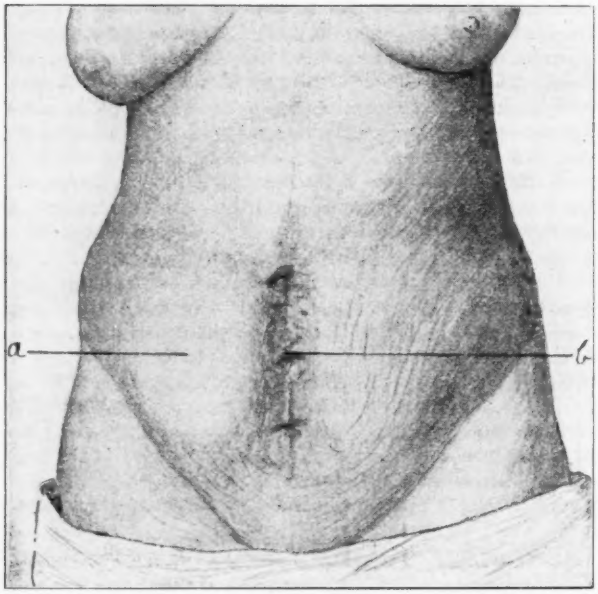

Fig. 1.—Sketch of the anterior surface of the abdomen previous to operation. *a*, Swelling caused by the enlarged spleen; *b*, stretched scar tissue resulting from old operation.

Kurloff's experiments show that the spleen is not indispensable in the guinea-pig and some other animals, as the white corpuscles are formed by the lymphatic glands and bone marrow in sufficient numbers to compensate for the loss incurred by removal of the spleen.

In man, too, it has been found that removal of the spleen is not followed by any serious consequences, numerous cases having been reported in which the operation has been carried out for the relief of certain conditions, e. g., trauma, abscess, tumors, cysts, chronic hypertrophy, cirrhosis, leukemia and splenic anemia. In the latter condition splenectomy has been followed by very satisfactory results and is, undoubtedly, to be regarded as a valuable therapeutic measure.

Da Costa states: "Excision of the spleen in man is followed by a diminution of hemoglobin and erythrocytes, the degree of which is generally believed to be more pronounced than can be accounted for by the simple factor of hemorrhage incident to the operation." As regards the present case, the hemoglobin was reduced to a greater degree than the red cells. No doubt this is to be explained partly by the very slight loss of blood during operation, and partly by the loss of blood prior to operation, from frequent intestinal hemorrhages, hematuria, and possibly profuse menstruation. The leucocytosis was most probably due to the hemorrhage incident to operation, since it rapidly decreased from 22,000 on the sixth day to 11,200 twenty days later. The presence of normoblasts may be attributed to the same factor.

Let us now consider carefully the facts brought out in the history and see if it is possible to arrive at definite conclusions regarding the diagnosis in this case.

Osler has recently reported a series of cases of a disease termed splenic anemia, which he defines as follows: "A specific malady of unknown etiology, characterized by a chronic course, enlargement of the spleen, a secondary anemia, a marked tendency to hemorrhage from the stomach, a liability to jaundice, cirrhosis of the liver, ascites and pigmentation of the skin."

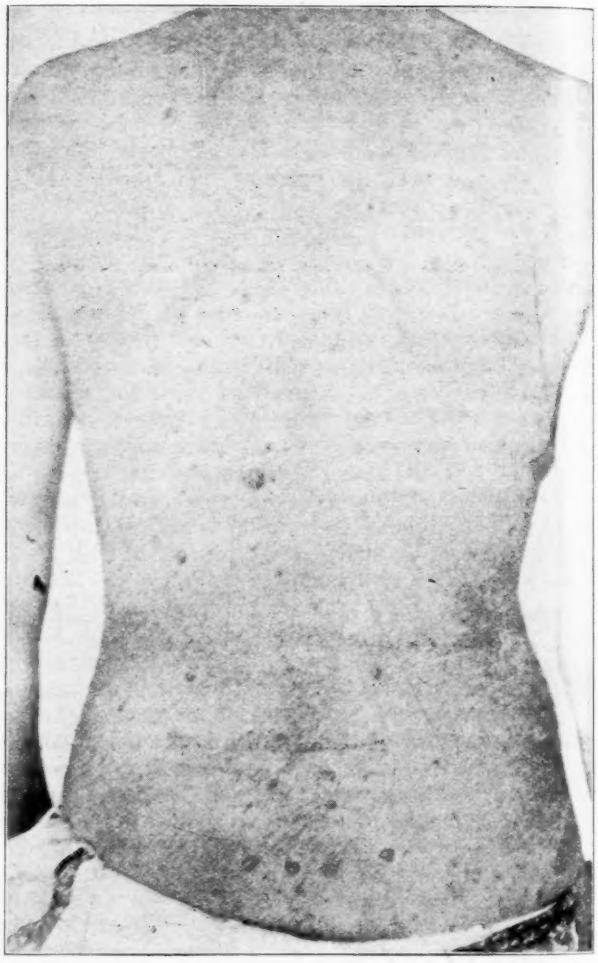

Fig. 2.—Back of patient showing multiple nodulation and pigmentation. The anterior aspect of the trunk presents a somewhat similar appearance.

In the case under consideration there is no definite etiologic factor explanatory of the various disturbances, although the patient gave a malarial history and had lived in a malarial district. Malaria might account for the splenic tumor, but not for the other signs and symptoms. The history is that of a chronic diseased state, extending over a period of seventeen years or more, associated with enlargement of the spleen. There were the following features: Secondary anemia; a tendency to hemorrhage from the kidney and bowel (the blood passed

in the stools may have come from the stomach); recurring attacks of jaundice; the pigmentation of the skin. Having present so many of the prominent symptoms of a typical case of splenic anemia are we justified in making a diagnosis of splenic anemia? Cases 14 and 18 in Osler's series correspond very closely to ours in every detail, having an enlarged spleen, secondary anemia, pigmentation of the skin, hematuria, jaundice, and in addition, cirrhosis of the liver, which, however, was not demonstrable until late in the disease.

In the case under consideration there was no liver cirrhosis nor any history of ascites. These conditions are, however, usually found only in the advanced stages of splenic anemia. The splenic enlargement is not as large as that reported in most cases of long-standing anemia. Its size might, indeed, be due to chronic congestion and hypertrophy of the tissues secondary to torsion of the pedicle.

In the present case there was a peculiar nodular condition of the skin which came on about one year after the tumor was first discovered. Does this bear any relation to the disease? In reviewing the literature at my command I find no mention of such a condition in splenic anemia. Oertel describes a somewhat similar appearance in a case of leukemia, but there was no such pigmentation associated with it. Kreibich describes another case of leukemic lesions of the skin, associated with some pigmentation, but the patient had been taking arsenic for some time previously, and this might have caused the pigmentation. Pinkus also describes a case of lymphatic leukemic lesions of the skin. Since all of these cases are positively of a leukemic nature, our case is, so far as I can ascertain, the only one of splenic anemia associated with a nodulation of the skin.

Our case was exhibited before the Chicago Dermatological Society, and the opinion was generally expressed that the nodulation was of the nature of a molluscum fibrosum.

A FEW PRACTICAL POINTS IN THE TECHNIC OF NEPHRORRHAPHY AND HERNIOTOMY,

AND A NEW MODIFICATION OF ALEXANDER'S OPERATION.

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In presenting this paper to the medical profession, I wish merely to call attention to a few simple details that I have found of such practical benefit that my results are far superior to what they formerly were.

By referring to my case-books I note that the cases operated on prior to 1890 and in which I followed the technic then in vogue, are not to be compared in practical results, rapidity of healing and permanent benefits, to my subsequent cases, in which I followed the technic here given.

NEPHRORRHAPHY.

An incision 10 cm. long is made 4 cm. from the spine and 2 cm. below the twelfth rib and parallel to it, cutting through the skin, fascia and muscles. The finger is inserted in the incision and the peritoneum is pushed out of harm's way. The fatty capsule of the kidney is caught, opened and resected in the dorsal part of the kidney. The capsule proper is now incised to the extent of 8 cm. on its dorsum, the capsule then freed 3 or 4 cm. in all directions by the finger.

The slight bleeding that follows this denudation is easily arrested by compression. To anchor the kidney, a double silkworm-gut continuous suture is made on each side of the incision, starting at A (Fig. 1), passing through the skin, fat, muscle and capsule proper; taking about 1 cm. of the muscles with the capsule proper and passing out in the inverse order, as shown in Figure 1 at A. The same procedure for the opposite side is shown at B and B′. By pulling these sutures taut, the capsule is drawn to the side and exposes a raw surface of kidney parenchyma about 3 cm. wide and 6 cm. long. A lead nickel-plated shield is threaded and shotted and the shot crushed on these sutures, when moderate tension has been accomplished.

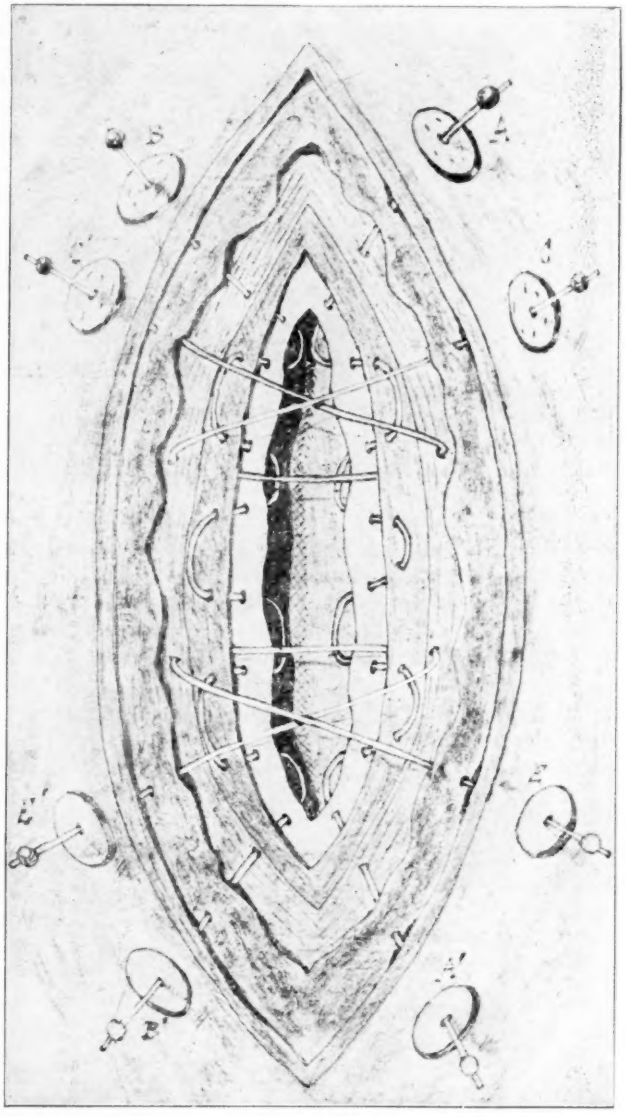

Figure 1.

The next step in this operation is to draw the muscles over the raw surface of the kidney, which is accomplished by passing double silkworm-gut sutures, starting at C, going through skin and fat, crossing over and taking in all of the muscles of opposite side, then recrossing over surface of kidney to take the muscles of the side whence suture started; to be recrossed and take in fat and skin, as shown in Figure 1, C′. The same procedure is followed in lower angle of incision, as shown in Figure 1, E and E′. If necessary, one or two more of this sort of figure-of-eight suture may be made, as shown in Figure 2.

When these figure-of-eight-like sutures are made tense, they serve to draw the muscle edge together and bring

their posterior raw surface in contact with the raw surface of the kidney parenchyma, at the same time bringing the adipose and skin in opposition. The "agraffes" (hooks) of Dr. Michel serve to make linear apposition of the skin, as shown in Figure 3.

The only dressing made is plain sterile gauze with tight-fitting abdominal bandage. The patient is kept

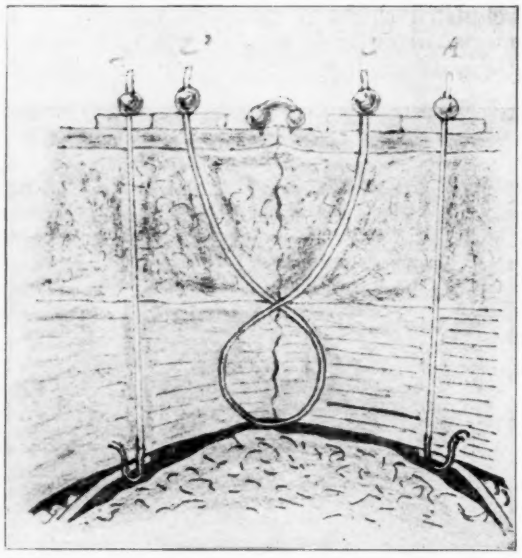

Figure 2.

in dorsal decubitus for about twenty days. The third day the agraffes of Michel are removed and collodion with absorbent cotton applied to skin incision.

On the twelfth to fifteenth day the shot and shield of A and B′, C and E′, are removed, leaving the sutures to loosen by the respiratory movements, so as to avoid

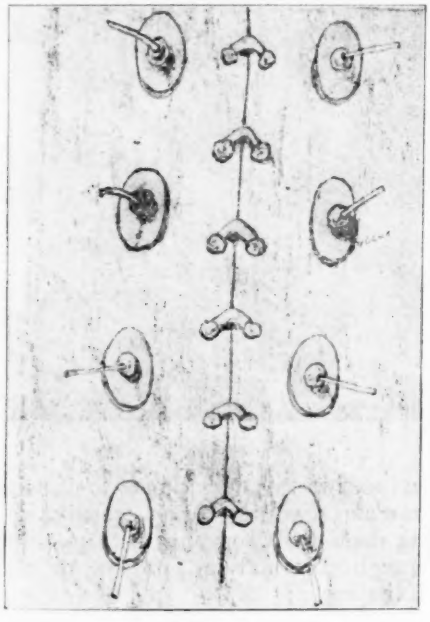

Figure 3.

pain and the possible breaking of the sutures in its final removal, a few days afterward.

By this method, it will be noticed, there are no buried sutures left to serve as a cause for future trouble.

Should there be an excess of oozing, a small strip of gauze may be left for drainage between sutures C and E and removed the second or third day of operation.

Since 1890 I have performed this operation 281 times, following this technic, and have never yet observed a failure. At this time it may serve a useful purpose to remark that in ten cases of double nephrorrhaphy, where, prior to operation, there had existed chronic nephritis and enlarged kidneys, with albumin and granular casts in the urine, in a few months following operation the urine cleared itself of pathologic products, and an evident diminution in the size of the kidneys was apparent, which I attributed to the freeing of the capsule of the kidney and the improved circulation in that organ.

In sixteen cases of single nephrorrhaphy, where the floating kidney was enlarged and congested, the bene-

Figure 4.

ficial effects of the operation were apparent in thirty days and the kidney practically restored to normal in two months following the operation.

TECHNIC OF HERNIOTOMY FOR RADICAL CURE OF HERNIA.

An oblique incision of the skin 5 cm. long is made parallel to the pillars of the inguinal canal. With the finger separate all the cellular tissue until the vas deferens is reached. Gentle traction is now made on the vas deferens, which brings the sac into view, which is usually attached thereto. The sac is now freed from the cord and adjacent structures, and for a distance of 3 cm. around and within the internal abdominal ring.

A curved needle, armed with double silkworm-gut sutures, is inserted at the neck of the sac, following its edge in the entire length of the sac, keeping to the margin, across the fundus and up the opposite edge, making a purse-string suture, as shown in Figure 4,

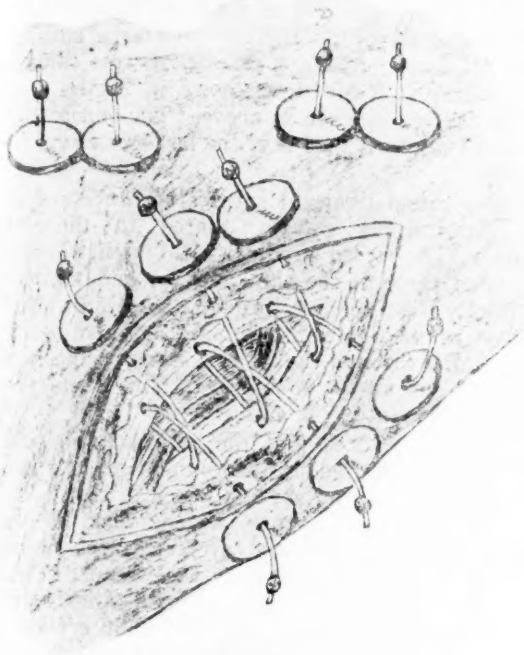

Figure 5.

C and C′. A second double silkworm-gut suture is now passed through the fundus of the sac, as shown in Figure 4, D and D′.

Now the finger is inserted through the external ring,

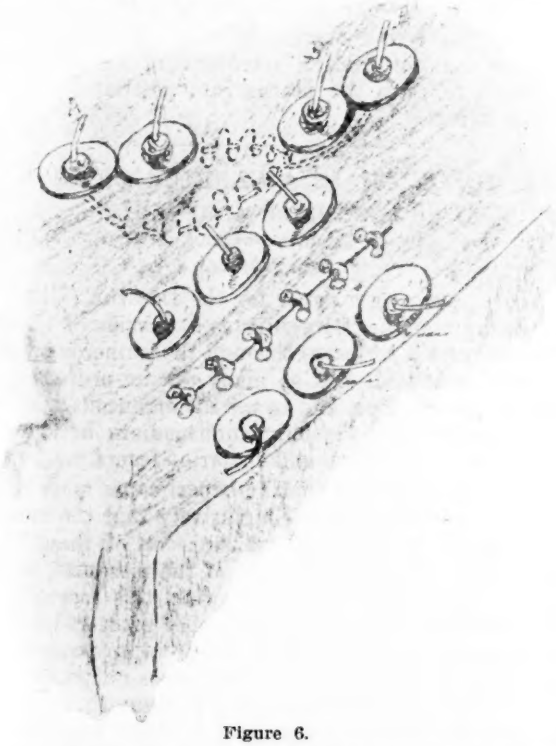

Figure 6.

between the peritoneum and abdominal wall. A Doyen's needle is inserted 4 cm. above the pillars and 3 cm. internal, i. e., towards the median line, as shown in A, Figure 4, and passed through skin, fascia and muscles until the finger is reached, and on which it is guided through the wound. Suture C is now threaded to this needle and brought out at A. This same process is followed in A′ by inserting needle 1½ cm. external to A, and on which thread C′ is passed and brought out at A′.

These sutures are now held by forceps. About 3 cm. external to A′ and parallel to it, the Doyen's needle

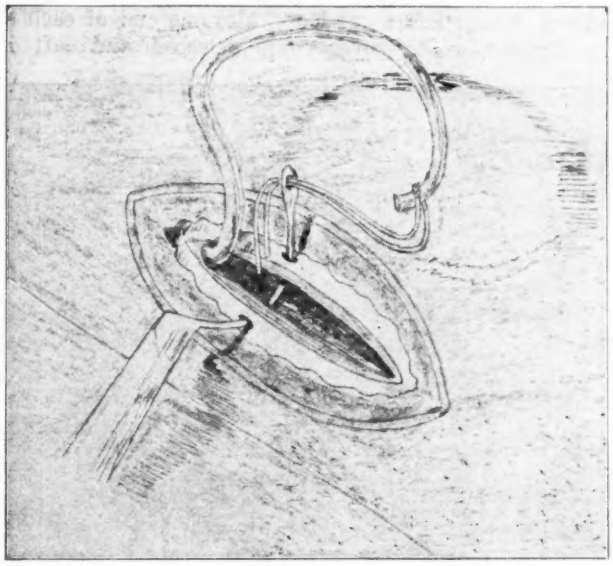

Figure 7.

is inserted as previously described, and threaded with suture D, and drawn through B; 1½ cm. external to this suture the needle is again inserted as above and threaded with D′ and drawn out at B′. Suture A and A′ are drawn moderately tense and threaded with shields and shot, and shot crushed.

The same process is followed with suture B and B′. It will be readily seen that drawing taut sutures A and A′ and B and B′, the hernial sac is held taut between the

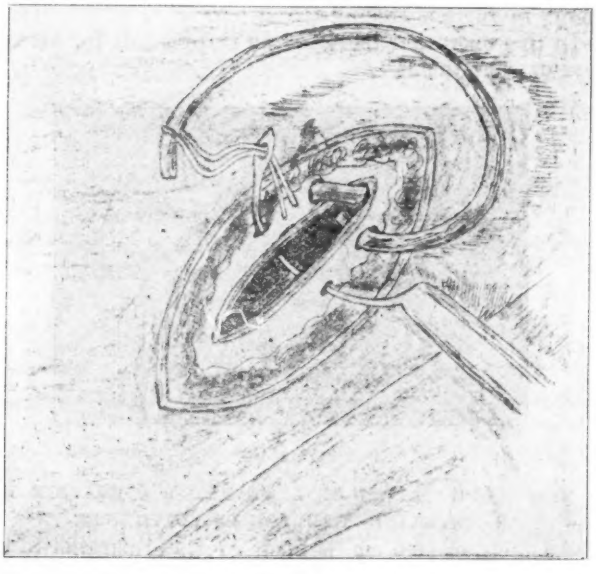

Figure 8.

parietal peritoneum and abdominal wall, making a bulwark above the internal ring, which serves at all times to resist any intra-abdominal pressure.

The cord is replaced in its normal bed and the pillars and abdominal wound carefully closed over it by two

or three figure-of-eight sutures, as described in the technic of nephrorrhaphy and shown in Figure 5.

The final closing of the wound and schematic drawing of the folded sac is shown in Figure 6.

On the third day the Michel hooks are removed and collodion and absorbent cotton applied to the skin incision.

On the tenth to the twelfth day the shot-holding sutures A and B are cut loose, also one end of each of the figure-of-eight sutures are released and left in

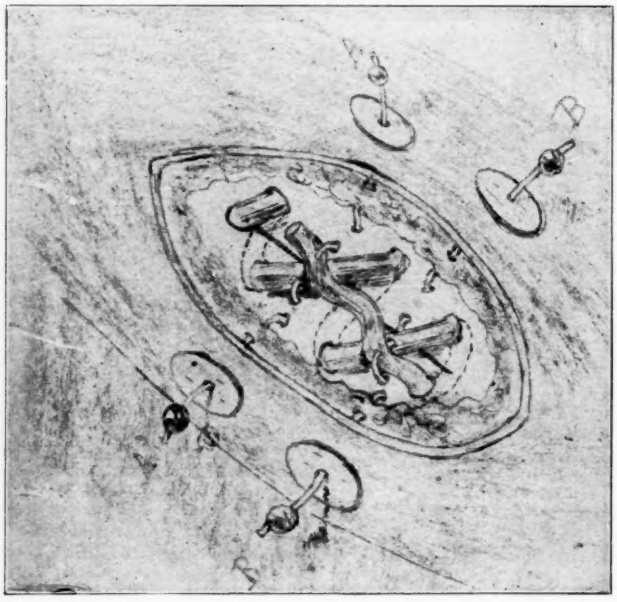

Figure 9.

position for two or three days more, at which time they are easily removed without pain.

Should, at this time, it be found difficult to remove the folded stitch A and A′, a small strip of gauze is wound under the remaining shield so as to form a cushion which will serve to assist the respiratory movements in further freeing the stitch.

In this operation there are no sutures left for absorption or encystment.

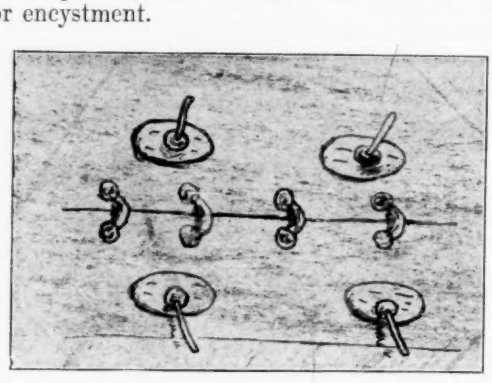

Figure 10.

A NEW MODIFICATION OF ALEXANDER'S OPERATION FOR SHORTENING THE ROUND LIGAMENTS.

An incision of 6 cm. is made over and parallel to the inguinal canal through the skin; with the finger dissect the fatty tissue down to the fascia. With the assistance of a grooved director, perforate the fascia over the inguinal ring. The small bunch of pearly white, fatty tissue, commonly found over the inguinal ring, is picked up, and on the inferior side is found the round ligament. This is now carefully dissected from its peritoneal hood for a space of 10 or 12 cm. A silkworm-gut suture is tied at its distal end. A Deschamp's needle is passed through the fascia and muscle of the inguinal ring about ½ cm. from its edge and threaded with the silkworm-gut suture, as shown in Figure 7.

The round ligament is made to follow this carrier suture and its own structure used as a suture of the inguinal ring. About 2 cm. below, this same method of suturing is followed, as shown in Figure 8. Again, a third suture is made as above. The end of the round ligament is overlapped over the last two round ligament sutures.

These round ligament sutures are anchored in place by silkworm-gut sutures, placed in the following manner: A curved needle, armed with silkworm gut, is passed through the skin and fat and taking a loop of fascia, then passing through the middle of the two crossed round ligaments, dipping again into the fascia and coming through the fat and skin of opposite side, as shown in Figure 9, A and A′. This same process is followed for suture B and B′.

It will be noticed that the inguinal ring and canal will thus be sutured by the round ligament itself and reinforced by its overlapping, which in turn is anchored by a silkworm-gut suture, which, when drawn taut, presses them together and overcomes the necessity of leaving any buried sutures in the wound. These silkworm-gut sutures are threaded with shields and shot, drawn moderately tense and the shot crushed. The Michel hooks are used for the close approximation of the skin edges, and removed the second or third day, and the line of incision covered with collodion and absorbent cotton. In about fifteen days following the operation, shot A and B′ are cut off and the suture left for three or four days more to partly free itself, at which time the sutures may be removed painlessly.

When the round ligaments are illy developed and there is marked uterine retroversion, an assistant is requested to raise the uterus into position by vaginal manipulation.

THE MOSQUITO AS A CARRIER OF DISEASE.

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While preparing a paper for the Decatur (Ill.) Medical Society on the "Mosquito as a Carrier of Disease," I was surprised to learn, through the numerous medical journals consulted, that so many of our profession had adopted the extreme, and to me the erroneous, view that the mosquito was the only intermediate host for the transmission of yellow and malarial fevers.

While the various scientific experiments made during the past few years prove conclusively that the mosquito is one great factor in the transmission of these fevers; and that by the extermination of the mosquito, and the proper precautions against allowing this insect to bite those afflicted with these diseases, a great reduction of the number of patients can be made in any community; yet, in my estimation, the evidence does not establish the fact that the mosquito is the only medium through which these fevers can be propagated. Those who maintain that it is claim that the experiments in Cuba, in 1900, of the board for the "Study of the Etiology and Prevention of Yellow Fever," prove the correctness of this, as to yellow fever. It may prove so to those who have not had any practical experience in the treatment and

study of yellow fever during epidemics of that disease; but not to many who have had such experience.

The experiments of the board on which their eighth conclusion, "Yellow fever is not conveyed by fomites, and hence disinfection of articles of clothing, bedding or merchandise, supposedly contaminated by contact with those sick with the disease, is unnecessary," was founded on placing three non-immunes in a small house in which was placed clothing, bedding, etc., contaminated by having been used by persons sick with yellow fever. They slept there twenty nights, then two other non-immunes took their place for the same time, then again two other non-immunes for the same period. A test was made with these seven men from Nov. 30, 1900, to Jan. 31, 1901. As none of these men contracted the disease, the board at once jumped to the conclusion that this forever settled the non-contagious character of yellow fever—hence their eighth conclusion.

This test was totally inadequate. Perhaps had they placed seven other men to the same test they would have had entirely different results. The erratic and uncertain transmission of yellow fever during an epidemic from one part of an infected district to another, striking down some non-immunes, and leaving others who had been equally exposed, should teach us to place but little reliance on so meager experiments as those made by the board. Yet many members of our profession have followed the dictum of the board, as a flock of sheep will follow their leader, even though he takes them over a precipice and dashes them to death; which will be the result to non-immune physicians and their patients, should they, during an epidemic of yellow fever, disregard all the usual precautions of exposure to infected articles and to proper and thorough disinfection.

During my eleven years' residence in the South, and an experience in the study and treatment of yellow fever during three epidemics, of which one lasted from August 15 to December 25, and occasioned 1,375 cases and 125 deaths within the city limits, there were a number of non-immunes who passed through this terrible scourge—taking care of the sick and being bitten by the numerous culex mosquitoes that existed—and yet did not take the disease. Some who did this in the epidemic of 1867 took the disease in the next epidemic, 1871. Every physician who has had an experience with yellow fever during an epidemic can give the same experience.

While I was on duty at Santiago de Cuba as U. S. Army surgeon from July to November, 1898, numerous instances came under my observation of non-immunes being in contact with yellow fever patients, and, of course, at the same time being bitten by the Cuban culex mosquitoes, and yet they did not take the disease. All who are exposed to yellow fever do not take it; which we know to be true of all other infectious and contagious diseases. Hence the eighth conclusion of the board appears almost absurd. Simply because these seven men did not take the disease is no evidence that it can not be taken by exposure to articles contaminated with yellow fever. If the same rule was applied to the mosquito theory it would not stand for a moment, for hundreds of non-immunes are bitten every year by infected culex mosquitoes where yellow fever exists as an epidemic and do not take the disease. Why non-immunes can be exposed for days and months to yellow fever, and that, too, in the presence of infected culex mosquitoes, and not take the disease, is beyond our ken to explain. It is strange how they do it, but they do.

An editorial in THE JOURNAL of the American Medical Association, Feb. 23, 1901, well and truly says:

> The experiments of Drs. Reed, Carroll and Agramonte make a great advance in our knowledge of yellow fever. . . . For them to be accepted as conclusive, however, and as overthrowing at once all former notions, is not exactly the scientific course. . . . The facts already obtained must guide us to others. In the meanwhile, it would be foolish to think of neglecting all hitherto accepted safeguards against the disease.

Major Havard, Chief U. S. Surgeon, Division of Cuba, in his report to the Surgeon General, U. S. Army, July 10, 1900, says:

> Our increased experience with yellow fever has shown us that there is much about the nature, development and communicability of the contagion of which we are ignorant. The laws governing this disease have not been discovered. It continues to strike when and where it listeth, regardless of our most reasonable expectations, and best hygienic measures.

The Major is emphatically right in this statement. Therefore, as we do not as yet know the specific cause of yellow fever, nor the numerous and varied means by which it may and can be transmitted, we should continue to use every possible precaution against it in our southern states.

That the mosquito is one great medium for its transmission we know, and we may in the near future learn of other means of its transmission and be able to combat them. That others exist the careful study of epidemics of yellow fever of the past will demonstrate. Its erratic and inexplicable movements in an infected district can not be accounted for on the mosquito theory alone.

As to whether the mosquito is the only intermediate host for the transmission of malarial fever: the majority of our profession are convinced that it is not. We do not know any more about the laws that govern the transmission of malaria than we do of those that relate to yellow fever. We know what the malarial parasite is when developed in the human blood; but what it is outside of that and the laws that govern it are yet unknown. Lavern, a French army surgeon, in 1880, claimed to have discovered the causative micro-organism of malaria outside of the human body, and after further investigations, in connection with a few persons in different parts of the world, decided that it could not be fully developed so as to produce malarial disease in the human being except through the stomach of the anopheles mosquito, and then through the bite of that insect produce malarial fever in the human being. No doubt much, if not the entire, theory of Lavern will soon be bottled up and placed on the dusty shelves in the laboratory of bacteriologists—to keep company with the Sanarelli bacillus.

In the transmission of malarial diseases by the mosquito the same law exists that does in yellow fever. The mosquito must first bite a person afflicted with malarial fever, and then in from eight to twenty days—average time two weeks—she can transmit the disease to a healthy individual. Therefore, from every community some one must go to a place where malarial diseases exist, let the infected mosquitoes bite him, contract the disease, return home, invite the mosquitoes to come and feast on his blood, then send them forth on a biting mission to his neighbors, and thus spread the disease.

Can any one who has studied the history of malarial diseases, or had practical experience in malarial districts, for a moment believe that malarial fever in former times could have thus been transmitted over our

vast prairies, or now in the bottom lands of our rivers and the swamps of the north and the south by the mosquito alone? Most certainly not! Especially when we take into consideration that it is a well-established fact that mosquitoes, as a rule, go but a short distance from their breeding places, sometimes but a few hundred feet—average distance not to exceed half of a mile—and that in olden times, and even now in our swamp regions, the settlements were and are, scattered—often with miles intervening between them—with but little if any communication one with another.

Many of the experiments that have been made by investigators in different parts of the world during the past few years, which are claimed to have established the mosquito as the only intermediate host in the transmission of malarial diseases, were of a similar character to those made by the Cuban board on yellow fever, and are not conclusive. For it is well known that many persons living in malarial districts can be, and are, exposed year after year to every possible means of contracting malarial fever—through the atmosphere, water and the mosquito—and yet remain in perfect health; and that healthy persons from non-malarial districts can spend months where malarial fevers are prevailing—mingling with the sick and being exposed to every possible means of contracting the disease—and not have a symptom of malarial trouble. Thousands of persons living in malarial districts can testify to the truth of this. The writer, who has had years of experience living in malarial districts, both before and since he became a physician, can most positively vouch for the truth of every statement here made.

THE BACTERIOLOGY OF CYSTITIS.*

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In the light of present advances in the real causes of cystitis, no one who is a student of progressive medicine will or can ignore the foreground bacteriology has taken in cystitis as other diseases, and bacteriologic investigation has proven that all cases of cystitis are due to infection of pathologic bacteria, even though trauma may first be given that organ from internal or external sources. Normal urine is free from all bacteria, whereas urine contained in the bladder under any diseased conditions of the urinary tract must necessarily contain pathologic and non-pathologic bacteria.

In cystitic urine, as a rule, both cocci and bacilli are present; either one may exist in excess of the other, both exist equally or only one form of bacteria be present. Among the cocci present are the *Staphylococcus pyogenes aureus, albus* or *citreus,* the *Micrococcus ureæ, Sarcina urinæ,* the *Uro-bacillus liquefaciens septicus,* the *Streptococcus pyogenes,* the *Zooglœa* masses and the *Gonococcus.* The bacilli are usually the coli communis, the tubercle and in cystitis during the middle or latter end of a typhoid attack the Eberth bacillus. Thiogenic bacteria may be present, whose peculiar function is to convert sulphuretted hydrogen into more potent compounds of sulphur, and play no small rôle in cystitis. The pathologic bacteria that are factors in most cases of cystitis are the colon bacillus, the different varieties of staphylococcus, the streptococcus, the tubercle and the gonococcus. The bacteria may invade the bladder mucosa from the meatus, urethra, or the blood may contain certain bacteria, which is true of pyemic and septicemic infections, and cystitis supervene from these conditions. The bacteria may descend through the ureter directly from the kidney, or penetrate the bladder wall from the intestine, as sometimes occurs, for the colon bacillus has been found in the blood during an attack of enteritis.

Instrumentation may frequently cause infection, even though performed under almost or seeming perfect asepsis. Vulvovaginitis in children, proctitis also, often produce cystitis, due directly to an invasion and infection of the mucosa by the bacteria in the vulvovaginal secretions, aided, perhaps, by the careless hygiene of children and the common habit of titillation of the external parts. The resisting power of the bladder mucosa against bacteria is lessened by any condition producing congestion of the bladder. This is proven by the congestions following contusions or lacerations of the urethra during labor, or after a sudden suppression of the menses from any cause excepting pregnancy. At one time the mucosa may be proof against the infection of bacteria, at another time the condition may be reversed, and an infection from certain bacteria produce an acute cystitis. Urine containing cystin has been considered infectious, during which condition of cystinuria certain bacteria produce a metabolic condition in the mucosa and muscular wall which results in an infiltration or hyperemia to a lesser or greater degree.

In the simple non-suppurative cystitis, caused by non-pathogenic bacteria, the urine is decomposed by these bacteria and produce a condition known as bacteriuria, but do not penetrate the mucosa. The streptococcus does not decompose urea, whereas the staphylococcus in most varieties do, and are present in alkaline urine. The saprogenic bacteria are not factors in the non-suppurative cystitis, and only rarely are present in the suppurative form, then in necrotic conditions. A group of bacteria, saprophytic in action, are the nitrifying and denitrifying bacteria, whose function may later produce ammoniacal urine, or add to it, when caused by other before-named bacteria. When the urine is ammoniacal, the nitrifying bacteria if present, oxydize ammonia into nitrous acid, and under reversed conditions the denitrifying bacteria, if present, convert nitric acid to ammonia and nitrous acid. In cystitis zymogenic bacteria rarely if ever enter into the fermentation process, as they do in beer, wine, butter and cheese manufacture, from whose bacterial action the necessary fermentation must result to produce these domestic articles of commerce. The *Proteus of Hauser* acts decidedly on urea, produces ammoniacal urine and may often be found in such urine caused by other bacteria. The *Proteus vulgaris* is often found in urine and is an important factor in the causation of pyelonephritis, as these bacteria descend with the urine into the bladder and find a host in the mucosa. In the suppurative cystitis the urine, which may be acid from the *Bacillus tuberclosis,* may also contain the *Bacillus coli communis.* Ammoniacal urine may contain other than decomposing bacteria, may contain only the *Bacillus coli communis* due to outside infection, as by instrumentation or other procedures by the patient. When ammoniacal fermentation of urine occurs it is not due to the *Micrococcus ureæ,* but results from the then or pre-existing cystitis in less or greater degree from other bacteria. In ammoniacal urine cystitis to a less or greater degree precedes the ammoniacal condition, oftentimes from the action of thiogenic bacteria on urea, previously mentioned. The acid urine in cystitis is rarely, if ever, caused by instrumentation. In some

* Read by invitation before the Seneca County Medical Society, Tiffin, Ohio, Sept. 18, 1902.

form of cystitis the alkalinity of the urine is due to certain bacteria which decompose urea, such as the *Bacillus pyocyaneus,* with or without the aid of the *Bacillus coli communis,* and even when the latter bacillus is present in large numbers.

The *Bacillus tuberculosis* plays an important rôle in cystitis, due generally to a secondary infection from pus, as in a tubercular kidney or tuberculosis of the urinary tract, in which the pus infected with the *Bacillus tuberculosis* is washed down through the ureter to the bladder mucosa. Not infrequently an ulcer of tubercular origin gives direct infection to the mucosa at a point remote from the ulcer. Disease of the anus, rectum or colon is often the cause of cystitis, as the pathologic bacteria migrate directly through the bladder wall. Cystitis in children is usually caused by the *Bacillus coli communis;* the invasion announced by pyrexia of an uneven course, followed by frequent, painful urination and the presence of blood more or less in the urine, which is subsequent to the marked vesical tenesmus. The urine voided under these conditions will exhibit mucus, pus cells, epithelial cells, blood cells and the *Bacillus coli communis* in large numbers.

The gonococcus as a primary cause of cystitis is not common, but most frequently produces prostatitis, but when cystitis is caused by gonorrhea the other bacteria will be found as coexisting with the gonococcus as factors in the causation. The *Streptococcus pyogenes* may invade the bladder from a nearby suppurating process, which is spreading in character, or the *Staphylococcus pyogenes aureus* may, and often does, penetrate the tissue of the bladder from a circumscribed abscess formation or a pocket of pus near the bladder. Ischiorectal abscess has produced cystitis, due to the *Staphylococcus pyogenes aureus,* and the streptococcus was found present also, proving the penetrating powers of the bacilli. A pyosalpinx, or a suppurative peritonitis, pyelitis or a pyelonephritis may liberate the staphylococcus or streptococcus directly into the bladder or urinary tract.

In pregnant and non-pregnant women the vagina and cervix uteri are hosts to many forms of bacteria. Often the secretions contain streptococcus of a saprophytic nature, that become virulent under certain conditions of less resistance by the mucous membrane, migrate into the bladder, lodge in the mucosa and produce a form of cystitis occasionally met in gynecologic practice. In uterine displacement, causing congestion, hyperemia, or even hyperplasia, the *Streptococcus pyogenes,* the *Staphylococcus pyogenes aureus* or *albus* have frequently been found in the vagina, at or near erosions of the cervix, ulcers of the vulva or vaginal wall, which have caused an attack of cystitis. Such a case came to the notice of your essayist last March, which occurred in the practice of Dr. Houseman, Fostoria, who sought a bacteriologic examination of a urine, which disclosed the *Staphylococcus pyogenes aureus, Streptococcus, Bacillus coli communis* in large numbers, from which colonies were started, cultures made and kept alive by transplantation. The growth of the *Bacillus coli communis* from this urine on potato media revealed bacilli of such hearty proportions as to remind one of the "Huntswurst" of the up-to-date sausage factory. That urine also contained *Micrococcus ureæ,* sarcina, tetrads and other cocci.

Now and then, during typhoid fever, a cystitis appears, which is due to the invasion and infection of the Eberth, or *Bacillus typhosus.* Such cases of cystitis occur from the last of the second week to the fourth week of typhoid fever. Occasionally a cystitis will supervene during a relapse of the fever, of short or longer duration, which is due to the renewed activity of the *Bacillus typhosus.*

A new factor in the bacteriologic causation of cystitis is the *Bacillus dysentericus* of Shiga, the Japanese investigator. This bacillus is the cause of that virulent form of dysentery which has attacked our soldiers in the Philippine Islands. This bacillus varies but little from the *Bacillus coli communis* or the *Bacillus typhosus,* and certainly belongs to the colon family. It has been reported as the cause of a severe attack of cystitis supervening the acute attack of dysentery, when the dysentery becomes of a chronic character. As our soldiers return to this country, bringing cases of the acute and chronic tropic dysentery, these bacilli may in the future be added to the long list of "home bugs now doing business at the old stand." In suspected infection of the bladder by the bacillus tubercle it may be necessary to obtain the urine free from contamination from the meatus, urethra or external parts, which can best be accomplished by sterilized catheter under aseptic conditions. The *Bacillus smegmæ* is apt to contaminate the urine and might be mistaken for the *Bacillus tuberculosis.* The same holds true of the *Bacillus Lustgarten,* the so-called bacillus of syphilis and the bacillus of leprosy, but the latter—so rare in this country—is not a factor in pathologic examinations for *Bacillus tuberculosis.* For ulcerative nodular elevations at the urethral orifice, or in the bladder, the differentiation of the *Bacillus tuberculosis* and the *Bacillus Lustgarten* must be made, but the local and constitutional condition will usually be sufficient to decide between the last two if present, and the method of procuring the urine will greatly decide the possibility of contamination of the *Bacillus smegmæ.* The cystoscope is an invaluable aid in the early diagnosis of vesical ulcers, nodules, etc., and catheterization of the ureters in complex cases may be necessary for a differential investigation. The platinum loop or curette may be utilized, scrapings secured of suspected ulcers or nodules, colonies started, if possible, for the culture and staining differentiation in complex or obscure cases.

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GASTROINTESTINAL PERFORATIONS AND THEIR DIAGNOSIS.

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(Concluded from p. 833.)

PRESENT ACCEPTED METHODS. B. EXPLORATORY LAPAROTOMY.

So we see there are but two recognized methods of arriving at a diagnosis of perforation, i. e., awaiting peritonitis or performing laparotomy. The former is unreliable and of little value; the other, while it may be of great value, is of considerable real danger. As to a choice between them the consensus of opinion is in favor of the latter. Fewer cases will die after performing an exploratory laparotomy on all suspected cases than will be lost after awaiting the development of a peritonitis to corroborate the diagnosis. By awaiting the symptoms of a peritonitis in all such cases some few will not develop them and will recover without being exposed to all the dangers of an unnecessary major operation. To perform laparotomy in all such cases will of necessity result in some few being needlessly exposed to the many dangers of a major operation. But in the first instance the chances of a satisfactory outcome are as

small as is the danger of doing an unnecessary operation in the second. Certain cases undoubtedly do recover without operation, after penetrating wounds of the abdominal wall. But the vast majority of such cases are those uncommon instances in which a bullet enters the peritoneal cavity and by pure chance fails to injure the gastrointestinal canal.

Dr. Loomis,[35] in discussing Dr. Fitz's paper, said: "I do not remember to have seen a single recovery after there was unmistakable evidence of intestinal perforation."

Mr. Makins, speaking of gunshot wounds of the small intestine which occurred during the Boer war, says: "In the majority of cases which recovered spontaneously the injury was not of a perforating nature, and that in five cases in which the injury was certainly diagnosed in the hospital death occurred."

Flagg[16] reports a case of penetrating gunshot wound received in the Philippines in which exploratory laparotomy was performed and no perforation found, the patient recovering uneventfully.

Robinson[21] cites a case of penetrating wound of the abdomen on whom laparotomy was performed with no injury to the intestine found. Patient recovered. Such a happy ending is rare and can not be counted on; the probability of nonperforation occurring is not great, for Neff[36] says: "When the diagnosis of perforation is made the viscera will not escape injury in more than 4 or 5 per cent. of the wounds."

So in the absence of any method of definitely determining the true state of affairs it is better to consider all cases as are the 95 per cent. As we do not know which are included in the 5 per cent., we had better disregard the minor per cent. entirely. Cases in which undoubted perforation of the gastrointestinal tract has occurred and recovery followed, without any operative interference, are quite uncommon. The chief method of nature in such cases is by the establishment of an artificial anus, or a fecal fistula. In other cases the difficulty exists in differentiating those cases in which the intestine is injured from those in which it escapes damage; as a rule, in the absence of an autopsy, all cases of recovery following penetrating wounds of the abdominal wall are considered as cases in which the intestine escape injury. In this connection Makins is quoted as saying: "Wounds of the intestinal tract showed themselves capable of spontaneous recovery in a certain proportion of cases." But we are not told how he made a positive diagnosis of perforation in these cases which were not operated on and which recovered.

One of the earliest cases in which undoubted injury to gut was followed by recovery without operation is recorded by Littre in 1705, and is referred to by John Bell in his "A System of Surgery," Edinburgh, 1826. It is the case of a madman who stabbed himself with eighteen wounds in the belly, and of these eight penetrated the abdomen; they were made with a sharp-pointed knife. The fever, pain and swelling and difficult breathing, with vomiting and purging, proved them to be dangerous wounds; vomiting of blood discharged by the stool proved that the wound touched the stomach and the intestine; yet desperate as this case appeared, in two months the man had entirely recovered. His madness came on him again and about eighteen months after he threw himself from a high window and died. On autopsy it was found "that the jejunum just below the stomach had been injured with a cut half an inch in length across the gut; the right side of the colon had been injured with a cut one inch in length, the scar which it left being a half inch long." This is of interest and value in showing to us that it is possible for such a case to recover without surgical intervention. We will not consider the possibility that these scars might be the result of some ulceration from within, probably caused by a foreign body. As the man was insane there is a chance that foreign substances might have been swallowed, or that the wound of the knife might have injured the outer coats of the intestine alone, not including the mucosa, and so not forming a perforating wound; but, granting the explanation given by the author that the scars were the result of stab wounds inflicted eighteen months previous, the question remains, how many such cases would recover under similar treatment and how many similar cases would recover after laparotomy and enterorrhaphy? The fact that such a case may possibly recover without surgical interference does not justify one in allowing others to die without attempting to repair the damage.

Such an outcome is usually explained by the establishment of a localized peritonitis which causes omentum or neighboring loop or loops of the bowel to become attached to the site of the perforation and so occlude the opening, preventing extravasation or extension of the inflammation. Such a favorable termination is uncommon and can not be depended on. It may occur in small punctured wounds (as in experiment No. 10), but the size of the intestinal perforation can not be gauged before seeing it. The size of the penetrating object makes no difference, for a small bullet by burrowing obliquely along the convex border may give rise to an opening of comparatively enormous size.

The stopping up of a perforation by the protrusion of the mucous membrane can not be depended on. In all large wounds it everts and so prevents formation of adhesion to serosa; this protrusion forms a mucous canal connecting the septic lumen of the gut with the free peritoneal cavity. The lumen of this canal may be small, but a large lumen is not necessary to allow of the escape and passage of bacteria.

In gunshot wounds and punctured wounds of the abdominal wall the first indication is to ascertain whether or not the abdominal wall is perforated. It is impossible in many cases to tell whether there is an opening in the peritoneal sac from the apparent course the bullet has taken, or from the symptoms which may develop, such as shock, tenderness or muscular rigidity, for all these may be present and yet there be no opening in the peritoneum.

The method of arriving at a diagnosis of penetration in use by the best authorities to-day consists in making an incision over the wound and following the course of the bullet, the track being in plain sight all the time, till the peritoneum is found to be intact or penetrated, when the wound is treated accordingly, either proceeding and doing a laparotomy or closing the wound.

The older, more common and more dangerous method of probing is still used considerably. The objection to the use of the probe is the danger of forcing infectious matter deeper into the wound or even into the free peritoneal cavity; this, of course, can be done with a surgically clean probe as with one not so. All bullet wounds may be infectious, and hence promiscuous probing will only add to the spread of the infection; and again, it is working in the dark; one can not see where the instrument is being forced and damage may be done. It is often unsatisfactory, as the muscles may contract on the track of a bullet and prevent the passage of a probe. The finger has been proposed as a substi-

tute for the ordinary probe. This animated probe will in many cases be too large and will force and spread infection in the same manner as the other, its only advantage being the addition of the sense of touch, which, of course, will be of considerable moment in many cases.

Caution against too much probing in bullet wounds may be found as early as 1845 by Gibson[37] as follows: "The surgeon should make it a rule, when called to a gunshot wound of the abdomen, to spare the probe and finger as much as possible; such examinations thoughtlessly made can do no good and have been the cause of great mischief." And in 1898, by Senn:[5] "A penetrating wound of the abdomen should never be probed, either for diagnostic or therapeutic purposes." Yet in a recent number of the *Annals of Surgery* we find LeConte reports a gunshot wound of the abdomen in which he says: "And a probe refused to pass beyond the latissimus aponeurosis." In commenting on this case and gunshot wounds in general the same speaker says: "It has been my practice to treat the tract of the bullet as septic until it has proved itself otherwise." We would ask then, why probe?

Other methods have been advocated, such as the injection of hydrogen gas or peroxid of hydrogen into the wounds; if the passage of the gas was obstructed it was supposed that the wound did not communicate with the free cavity, and if, on the other hand, the gas did not cause any distention of the track and met with no obstruction, it was supposed to have passed into the abdominal cavity. But these have been found to be inaccurate and dangerous measures, and so are practically abandoned at the present time.

If the wound is penetrating the probability that damage has been done to the abdominal contents is great; as great as 95 or 96 per cent. by one author. But, on the other hand, we find Makins saying that "unless the intestine was struck in such a direction as to render lateral displacement an impossibility the gut often escaped perforation."

In this connection we call attention to the frequent escape of the intestine from injury in cases of stab wound as compared to gunshot wounds. This may be explained by the comparative slowness of the stab wound which allows the intestines to escape from the path of the knife.

The operation of "Paracentesis Abdominalis," so frequently performed yet never damaging the intestine unless there be adhesions between the visceral and parietal peritoneum, at site of puncture, serves also as an example and tends to strengthen the proposition that, in certain cases, the intestine may get out of the path of even a bullet. But, again showing the differences of opinion, the late Sir William McCormac said: "The bowel is nearly always perforated, feces are extravasated and very frequently there is some other complication as well."

It would seem that in the vast majority of cases evidence of penetration is sufficient provocation for laparotomy. Parke says: "The treatment of penetrating wounds of the abdomen requires exploration." But Senn, as late as 1898, says: "Quite recently the assertion has been made by several prominent surgeons that laparotomy should be performed in all cases where it can be shown that penetration has occurred. It must, however, be admitted that in the absence of serious visceral lesions penetrating wounds of the abdomen are injuries from which the patients are very likely to recover without operative treatment, and that when such patients are subjected to laparotomy death may occur solely in consequence of the operation. Clinical experience and the result of experiment show conclusively that laparotomy should not be performed because a bullet has entered the abdominal cavity, but that its performance should be limited to the treatment of intra-abdominal lesions, which, without operative interference, would tend to destroy life." Hildebrandt, Berlin, at the Congress of German Surgeons, April, 1902, in discussing penetrating wounds of the abdomen and their treatment, says: "When the diagnosis of perforation is made laparotomy should be performed immediately." In other cases he advises expectant treatment, performing the operation only when necessary.

Then there are certain and not uncommon conditions under which we may have perforation of the gastrointestinal tract in which the abdominal wall shows no evidence of penetration or even injury, as ulcerations and contusions. In such cases especially is there a crying need for some method of diagnosis other than those two above enumerated.

With our present aseptic technic exploratory laparotomy is *almost* devoid of danger, so that if no perforation is found in the majority of cases no damage will have been done, or, as Cushing says: "Nevertheless, I believe much less responsibility was associated with an explorative laparotomy than with the risk of neglecting a perforation until signs of peritonitis should occur." Or Richardson, who says: "An objection lies in the possibility of unnecessary operation, for the chagrin is great, though the danger is slight, when the patient has been subject to an unnecessary risk." Scudder,[38] in this connection, says: "Indiscriminate early exploratory operations for diagnosis are to be deprecated; it is certainly better, however, to have operated many times and found no lesions than even once to have neglected operating where it might have saved a life."

But in each and all of these quotations there is a tacit admission that it is a question of choosing between two evils, and all are agreed as to which is the lesser. And the lesser evil is evil because it is not absolutely free from danger. Explorative laparotomy on even perfectly normal individuals is not free from danger. Dr. Keen, at the Denver meeting, challenged any one in the room who believed he could do 100 abdominal sections on well patients even and not have a 2 per cent. mortality, and no one took it up. At the Columbus meeting, when criticised by Dr. Morris, he said: "I am perfectly well aware that several of the best surgeons can show less than 2 per cent. mortality, but I still maintain that in the hands of the average man the mortality will be 2 per cent. or higher."

The use of a local anesthesia reduces but one source of danger; the other possible causes of a fatal termination are still present. It is this mortality rate, small as it is; the knowledge that exploratory laparotomy is not devoid of danger; the fact that an unnecessary laparotomy may terminate fatally, that has led to many attempts at some other method of diagnosis, if not absolutely dangerless, perhaps of less langer.

In an editorial in THE JOURNAL A. M. A. we find the following: "Any operation which does not better the condition of the patient must be regarded as a therapeutic error. Progress in the future is likely to depend much more on the discoveries which shall make surgery less necessary than to the opening of new fields for surgical treatment. The advance should be in the direction of limiting these unnecessary and harmful operations, for the wisdom of the surgeon should serve as well

to restrain him from operating as to enable him to operate successfully."

NEW METHODS AND EXPERIMENTS.

A suspected perforation, in a case of typhoid fever occurring in the writer's practice, and the lack of conclusive evidence sufficient to justify an operation, even after the aid of consultation with that master of diagnosis, the late lamented Christian Fenger, led to a train of thought which might be expressed in the following manner:

THE SURGEON'S SOLILOQUY.

To operate or not to operate, that is the question;
Whether it is nobler in the mind to suffer
The slings and arrows of a suspected perforation,
Or to take up the scalpel, against our doubts,
And by exploration—end them.
To cut, to explore and perchance not find a perforation.
Ah, there's the rub. Thus uncertainty does make cowards of us all.
To explore, to cut, to laparotomize;
And by so doing find a perforation, and thus snatch
A human being from an untimely grave.
This is a consummation devoutly to be wished.
To test, to prove, to satisfy oneself,
Without the aid of the uncanny scalpel;
To explore without a celiotomy,
To find a reaction, by the aid of chemics,
That would demonstrate beyond the peradventure of a doubt.
That perforation did exist,
What an advance were that my fellow surgeons.
To test, to prove, to answer questions,
From the *x*-ray hidden,
To explore and lay bare the minutest perforation
By the aid of a reaction
Is a want, and the want has long been keenly felt.

And this, in turn, led to an effort to arrive at a means of diagnosis in cases of suspected perforation without the dangerous procedure of a laparotomy and before the development of peritonitis. The available literature was consulted and a line of experiments mapped out, these experiments to begin with the simpler and more readily discernible chemical reactions and from these on to the more complicated and proportionately more valuable procedures that would include the use of the spectroscope, microspectroscope, the polariscope and all available means that might shed even a ray of light on this problem. But circumstances led the writer far from the facilities of the complete laboratory, with a result that but few experiments were performed, and these of a more simple nature. The results, while not absolutely conclusive thus far, show the possibilities of the modern laboratory when intelligent inquiries are made of it.

The experiments have been, in principle, the injection of filtered air or normal salt solution into the abdominal cavity, the withdrawing of the same and examining it for some substance found normally in the gastrointestinal canal and which is not found in the normal peritoneal cavity. Or, to put it in as few words as possible, if there is a perforation will not a delicate chemical reaction detect it?

When any new method of treatment or diagnosis is presented the first indication is to demonstrate conclusively that no harm or damage will follow its application; the second, that it will accomplish some good.

As to air, if no perforation is present will the injection of filtered air into the peritoneal cavity do any harm? Murphy has demonstrated the innocuousness of nitrogen when injected into a large serous sac, the pleural cavity. Senn claims that no evil effect follows the escape of hydrogen gas from the bowel into the free cavity. G. Kelling[39] has recommended tamponing the abdominal cavity with air in cases of threatened internal hemorrhage, and in his method of celioscopy[40] has still further demonstrated the lack of any bad symptoms following the injection of air into the abdominal cavity. In the writer's experiments, in three instances (Exp. 3, 10 and 5) the abdomens of dogs were filled with filtered air and no evil effects of any description was noted, the distention and tympany disappearing in from two to six hours. On the contrary, in one instance in which the animal was given too much anesthetic and seemed to be about dead, forcible distention of the abdomen with air seemed to resuscitate the animal. Once again, during the same operation, the animal apparently stopped breathing and pulsation of the heart could not be heard. Care was taken to ascertain these facts. Injection of air was again resorted to, with a return of pulse and respiration. A third time the animal collapsed and a repetition of the measure failed to restore him. This was in all probability merely an apparent death, for in two other cases the animal died from the anesthetic, while the injection of air into the abdominal cavity and all other known means failed to bring back life.

On the other hand, if there be a perforation of the gut and examination of the aspirated air reveals the fact, operation will be performed at once.

As to the injection of fluid into the cavity, the normal salt solution is superior to sterile water, in that it does not act as an irritant to the peritoneum and cause the destruction and removal of the endothelial cells as the plain water has proven to do. T. J. Maxwell[41] reports two cases in which he irrigated the abdominal cavity with a normal salt solution, at intervals of from four to six hours, as temperature and pulse indicated, for four or five days, with no evil result as a consequence. Laplace[42] has demonstrated that the peritoneal cavity stands with perfect safety a continuous irrigation with normal salt solution at a temperature of 100 F. during 74 hours.

In the absence of perforation the injection of fluid into the cavity will cause no infectious matter to be spread throughout the sac because there is no infection present. The result of this fluid in the peritoneal cavity will be the same as that which follows transfusion; it will become rapidly absorbed and will act as a stimulant to a flagging circulation and at the same time serve as a most rational treatment for shock and collapse.

If there be a perforation, and examination of the fluid reveals the fact, laparotomy will be instituted at once, and as it is an almost universal practice to flush out the cavity in such cases, this flushing will have been begun before the operation and have acted as a stimulant, so enabling the patient to stand the operation better than without it. By this method no new infectious intestinal contents will be forced into the general cavity, as may occur when the rectal insufflation is practiced. To be sure, the contents which have already escaped may become disseminated throughout the peritoneal sac, but whether it is better for the patient to have 1,000 germs in one locality or one germ each in 1,000 different locations is an open question, regarding which J. G. Clark,[43] who has made a masterly study of the subject, says: "It may appear to some of my readers that the peritoneal infusions of normal salt solution, in cases in which infection is suspected, is to condemn the patient to certain septicemia or even pyemia through the wide distribution of the microörganisms. On the contrary, we believe this very action is prevented." He bases his argument, very rationally it seems, as follows: "Given

a minimum amount of peritoneal infection it is infinitely better to distribute it at once, before the microorganisms undergo manifold sporulation, than to hope for its elimination after it has gained virulent headway through stagnation within the abdominal cavity. By at once distributing a minimum amount of infectious material generally throughout the body the microörganisms are promptly placed in the most favorable situations for their destruction and elimination."

From the above we conclude that the injection of the air or water into the abdominal cavity in the absence of a perforation is harmless, and in the presence of perforation is likewise devoid of danger.

There may be cases of chronic nonperforative peritonitis in which the aspirated air or liquid may reveal substances, contained normally in the lumen of the gut, for Fitz says: "A fecal order may be present in the purulent exudate, which has remained for some time in contact with the large intestine, although there be no perforation on the bowel." And it is a well-known fact that the bacteria, especially the colon bacilli, may pass through the nonperforated intestinal wall.

Cutler and Elliot[21] report a case of typhoid in which the symptoms pointed to a perforation and laparotomy was performed. Peritonitis was evident. No perforation was found, but two grayish patches were almost ready to slough. These were inverted by suture and the patient recovered.

G. Poser and J. Cohn[45] claim, after experiment, that there is no doubt that under certain conditions the intestinal wall is penetrable by bacteria. They injected *Micrococcus prodigiosus* into the rectum of dogs and then sealed the anus. After two days the animals were killed and the prodigiosus was found in the peritoneum. It is probable that a perfectly normal bowel opposes their passage.

This process was called propagation by Monad and Van Vertz.[26] But these conditions are not found in acute abdominal emergencies, and when found in subacute or chronic conditions demand laparotomy as their treatment. To satisfy ourselves that such a condition will not be found in acute nonperforative peritonitis one experiment was carried out as follows:

Large bull dog. Anesthesia, shaved and cleansed. Incision, median line, opening the abdominal cavity. A small piece of gauze saturated with pus from an infected finger was inserted into the cavity and abdominal wound closed. Twelve hours after, when animal showed evidence of peritonitis (tympanites and temperature), normal salt solution was injected and withdrawn. This fluid, on examination for sulphur, ammonia, indol, nitrates, bile, peptone, proteoses, starch, sugar, etc., gave a negative result.

In the first experiments it was our aim to utilize the principle by means of which plumbers locate a leak in the sewerage; that is, by exposing white blotting paper saturated with lead acetate to the suspected air, which, if contaminated with any compound of sulphur, notably H_2S, will convert the lead acetate into lead sulphid and cause the white paper to become black. As the lower bowel at least contains sulphur, and the normal peritoneal cavity contains none, it was hoped that by this means a perforation of that portion of the alimentary tract might be discovered. With this object in view experiments were conducted as follows:

EXPERIMENT 1.—Dog. Anesthetized, shaved and cleansed. Abdominal incision, median line. Rectum brought into abdominal wound, which was incised at its convex border for a distance of two inches. The mucosa everted and contents escaped, after which the bowel was returned to peritoneal cavity and the abdominal wound closed. Twenty-four hours after the receipt of injury to gut the dog was found alive, but in very bad condition, tympanites marked. Animal again anesthetized and cleansed. Gas escaped spontaneously from the abdominal cavity after the induction of trocar. This gas was conducted by means of a rubber tube to the bottom of a test tube containing a saturated solution of lead acetate, which solution was turned black in one minute.

EXPERIMENT 2.—Dog. Anesthetized, shaved and cleansed. Abdominal incision, median line. Rectum brought into wound and incised on convex border for distance of 1½ inches. Mucosa everted and contents escaped. Injured bowel returned to peritoneum and abdominal wound closed. Twelve hours after receiving the injury the animal was again anesthetized. Two trocars were inserted into abdomen, one below the xiphoid cartilage, and the other above the pubes, and filtered air forced in one trocar. After a slight distension of the abdomen this air made its escape from the second trocar, and upon being conducted to the bottom of a test tube and allowed to bubble through a solution of lead acetate, it shortly turned the lead acetate solution black.

EXPERIMENT 3.—Similar to No. 2, and differed only in that the filtered air was forced through the abdomen three hours after the injury instead of twelve hours as in No. 2. The same positive reaction (lead acetate solution turned black) resulted in this case.

EXPERIMENT 4.—Similar to No. 3, except that the air after passing through the contaminated peritoneal cavity was allowed to bubble through a solution of iodized starch. As a result this blue solution was changed to a colorless one.

EXPERIMENT 5.—Differed from Nos. 3 and 4 in that instead of using lead acetate or iodized starch as a test solution the escaping air was passed through Nessler's reagent, which was promptly turned yellow, indicating the presence of ammonia.

EXPERIMENT 6.—To demonstrate that such reactions are not confined to the lower animals, human feces in dilute solution (oz. to pint) of sterilized water were placed in a large bottle and shaken. Filtered air was now forced through this solution and allowed to pass through a solution of lead acetate, which was darkened. The lead solution was replaced by one of iodized starch and this in turn was bleached, and on substituting Nessler's reagent for the starch it was changed to a yellow color.

EXPERIMENTS 7, 8 and 9.—To exclude the possibility of these reactions occurring after passing the air through a normal peritoneal cavity, and at the same time to determine whether or not there were any evil effects to follow the procedure, the experiments were similar.

Dogs anesthetized, shaved and cleansed. Two trocars inserted, one below xiphoid cartilage, and the other above the pubes. Filtered air was forced through one trocar into abdominal cavity. After slight distension air escaped from second trocar, and was led into a solution of lead acetate, which was unchanged after the air had bubbled through it for five minutes. Similar negative results were noted after the substitution of the iodized starch solution and the Nessler's reagent, for the lead acetate. The trocars were then withdrawn, leaving as much air as possible in the abdominal cavity, and the punctures sealed with collodion. No evil effects were noticed and the next day the tympanites had entirely disappeared, and the animals seemed perfectly normal in every respect.

EXPERIMENT 10.—Dog. Anesthetized, shaved and cleansed. Abdominal incision, median line. Jejunum brought into wound and incised for 1½ inches at its convex border. Gut replaced in cavity and abdominal wound closed. Twelve hours after receipt of injury tympanites and peritonitis present. Air was forced through the cavity, and then in turn through lead acetate, iodized starch solution and Nessler's reagent with a negative result in each instance.

EXPERIMENT 11.—Dog. Anesthetized, shaved and cleansed. Abdominal incision, median line. Rectum brought into wound. Two trocars inserted into this viscus six inches apart, and air forced through them, the gut being compressed above and below the trocars with Murphy clamps to prevent the air from

filling the entire tube. This air after its escape readily turned the lead solution dark. The same process was repeated in the ascending colon with a like positive result. It was also performed in the small gut, and in the stomach with a negative result. After passing the escaping air through the solution for five minutes no change in color could be detected. The abdominal wall was now saturated with the intention of making tests from the free cavity on the following day, but at that time the animal presented no external evidence of peritonitis, and instead of doing so, rapidly recovered.

This experiment is instructive in demonstrating the necessity of more than one test, as a different substance or substances must be looked for in cases of perforation of the small gut or stomach, and also of extreme interest in proving the possibility of spontaneous healing of the gut and recovery without any attempt at closure of wounds by suture or other artificial means. This animal recovered without suture of gut after receiving eight punctured wounds of the alimentary canal; the wound in each instance being made by a trocar about one-eighth of an inch in diameter. It is worthy of note that in none of these wounds did the mucosa evert, which in all probability accounts for the union and recovery.

While the possibilities of air as a source of information were far from being exhausted, a few tests with liquid were deemed desirable. The observations of Maxwell and Laplace demonstrated conclusively that no evil effect may be expected as a result of the free application of normal salt solution to the peritoneum of human beings, and rendered it useless to prove the proposition on the lower animals. The first experiment was in the nature of a control, the fluid being examined after its passage through a normal peritoneal cavity, one in which the gastrointestinal tract is nonperforated.

EXPERIMENT 12.—Small bull terrier. Anesthetized, shaved and cleansed. Two trocars inserted into the abdominal cavity, one below ensiform cartilage and the other above pubes. One liter of normal salt solution at a temperature of 110 F. was injected into the abdominal cavity, trocars withdrawn and puncture sealed with collodion; after the expiration of one hour, four ounces of fluid were withdrawn from the cavity and immediately examined for ammonia, nitrates, indol, bile, sugar, starch, peptone, proteoses, sulphur, and sulphates, none of which were found, thus showing that with no perforation these substances will not be found in the solution after its passage through a non-perforated peritoneal sac.

Next an attempt to arrive at a diagnosis of perforation of the large gut was undertaken as follows:

EXPERIMENT 13.—Black and tan cur. Anesthesia, shaved and cleansed. Abdominal cavity was filled with normal salt solution 110 F. through two trocars—withdrew about four ounces of this fluid into a bottle marked "Before perforation."

After removing trocars, abdominal incision was made, through which the large bowel was exposed. The rectum was incised on its convex border for a distance of about half an inch and then replaced in its normal location in the abdominal cavity and the wound in belly was closed. Twelve hours after the injury to the gut was received the dog was again anesthetized, the trocars inserted once more and through one normal salt solution introduced into the abdominal cavity, through the other a portion of this fluid was withdrawn and put into a bottle marked "After perforation, twelve hours." Examination of these solutions for ammonia was negative in the first, and positive in the second.

EXPERIMENT 14.—Similar to No. 13, differing only in that the normal salt solution was injected into the abdomen three hours after the injury instead of twelve hours as in the previous one. This fluid was allowed to remain in the abdomen for 30 minutes and then about four ounces of it was withdrawn and placed in receptacle labeled "After perforation, three hours," and which, when examined for ammonia with Nessler's reagent, gave a distinct positive reaction.

EXPERIMENT 15.—Similar to No. 14, except that instead of examining the aspirated fluid for ammonia it was treated with sulphuric acid and sodium nitrate, the change of color indicating the presence of indol. By this test, according to Herter, we are enabled to recognize indol even when diluted as much as one part to two hundred thousand of water.

EXPERIMENT 16.—Similar to No. 15, but instead of examining the fluid for indol it was made alkaline by adding sodium hydroxid and then sodium nitroprussiate was added with a resultant violet color. This indicated the presence of soluble sulphids.

EXPERIMENT 17.—Dog. Anesthetized, shaved and cleansed. Incision, median line. Upper portion of the jejunum brought into the abdominal wound and its convex border incised for an inch and a half. The mucosa everted and contents escaped. Bowel put back. Abdominal wound closed. Six hours after injury, normal salt solution injected into abdominal cavity and after remaining for fifteen minutes four ounces were withdrawn, and examined for peptone or proteoses, bile, sugar, starch, with a negative result for all except the biuret test for proteoses.

EXPERIMENT 18.—Same as No. 17, except that in testing for bile, Hays' reaction was utilized and found positive. When powdered sulphur is sprinkled on a fluid containing bile the sulphur gradually sinks. This reaction, according to Beddard and Pembrey, depends on the presence of bile salts alone, and is still given when one part of bile is diluted by 120,000 parts of water.

TREATMENT.

While it is not intended to include treatment at length in the scope of this paper, the diagnosis and treatment are so intimately related it, it would be incomplete without a few words concerning treatment of the condition when found. The treatment may be arbitrarily divided into treatment of the perforation and of the peritonitis.

Treatment of the Perforation.—As to the perforation, its location relative to the portion of the gut involved will be of considerable importance. The wound may be *a*, at the convex border; *b*, at the mesenteric border, or *c*, between these two. If at the convex border a simple suture will be sufficient. If there is any danger of causing a stenosis the wound may be closed transversely to the long axis of the gut (Heinecke, Mikulicz, the so-called enteroplasty). If at the mesenteric attachment the blood supply must be carefully studied and in suturing too much blood supply must not be cut off. Some advocate resection, followed by enterorrhaphy, in such perforations. The presence of the mesentery with its separated serous coverings adds to the difficulty of suturing in this locality.

In through-and-through perforations, i. e., with an opening on both sides of the gut, the danger of stenosis is increased, and if near the mesentery the circulation of the convex portion may be imperiled; so it is usually advisable in such cases to perform resection.

The technic of intestinal suturing will not be dwelt on. The Lembert suture is certainly, according to many writers, fast becoming a thing of the past, and the through-and-through suture with the knot in the lumen taking its place.

When resection is necessary a choice lies between anastomosis with the Murphy button and enterorrhaphy with plain needle and thread. The advantage and disadvantage of each can not be dwelt on here, but it seems that the suture method is again gaining popularity.

Treatment of the Peritonitis.—The treatment of the peritonitis, which is unfortunately present in so many cases, is much more unsatisfactory than is that of the perforation. The practice of flushing out the cavity with normal salt solution is almost universal, and the

leaving of a liter of this solution in the cavity is earnestly urged by many.

The use of hydrogen peroxid, as recommended by Morris, has little to recommend it beside the fact that it spreads the infectious material the same as does the use of normal salt solution, and so allows nature to combat the infectious process at many points instead of at one situation.

The bactericidal property of the nascent oxygen can not be great, for if it were sufficient to kill the germs, such as the colon bacillus or streptococci, it would certainly at the same time destroy the sensitive endothelial cells lining the peritoneal sac.

The postural treatment, with elevation of the head, as recommended by J. G. Clark,[46] so aiding in the drainage of the infectious material through the diaphragm and into the mediastinal lymph glands, has many enthusiastic advocates, as has the method with elevation of the foot of the bed, as proposed by G. Ryerson Fowler,[47] which allows the deleterious substances to come in contact with the pelvic peritoneum, which, for some reason, seems more resistant to infection than is that peritoneum at the diaphragmatic portion of the cavity.

The continuous irrigation with the warm normal salt solution for acute general septic peritonitis, was suggested by Laplace[48] in 1889, at which time he said: "The method has not to my knowledge been used before." And at the St. Paul meeting he again refers to it and mentions cases which have recovered following its use.

We find an article by T. J. Maxwell[41] of Keokuk, Iowa, in which he reports two cases of post-operative septic peritonitis treated by free irrigation of the peritoneal cavity as long as the pulse and temperature demanded it.

CONCLUSIONS.

1. The previous attempts at an early and accurate diagnosis of perforation of the gastrointestinal tract without opening the abdominal wall have not been adopted.

2. There has been practically no improvement in the method of diagnosing such conditions during the past century.

3. The treatment of the perforation *per se* during the last century has progressed to a state bordering on perfection when compared with the older methods.

4. The diagnosis of gastrointestinal perforations is one of the most important unsolved questions in the domain of abdominal surgery.

5. There is no pathognomonic sign or symptom or group of signs or symptoms of perforation.

6. The only positive method of arriving at a diagnosis to-day is to either perform an exploratory laparotomy or await the development of a peritonitis.

7. To await the development of a peritonitis will reveal the diagnosis too late for the most effectual treatment.

8. Exploratory laparotomy as a routine measure will of necessity result in some cases being needlessly exposed to the many dangers of a major operation.

9. Exploratory laparotomy is not a harmless procedure.

10. The consensus of opinion is in favor of exploratory laparotomy as a choice between two evils.

11. The fact that even the most expert clinicians fail to diagnose perforation in all cases and even diagnose such a condition when it does not exist shows the great need of improvement in diagnostic methods.

12. The diagnosis should be arrived at before the treatment of the perforation is complicated by the presence of a peritonitis.

13. The injection of air or normal salt solution into the peritoneal cavity and withdrawal of the same for examination will do no harm.

14. Such a procedure will, in many instances, reveal a perforation before any sign or symptom of peritonitis exists.

15. The treatment of the perforation *per se* is simple and satisfactory.

16. The treatment of the complicating peritonitis is multiple and unsatisfactory. The best treatment is prophylactic, i. e., early diagnosis and repair of perforation before peritonitis has become established.

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PRIMARY ENDOTHELIOMA OF THE GALL BLADDER.*

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NARRATION OF CASE.

History.—Mrs. R., age 65, referred by Dr. W. F. Malone. Usual diseases of children. Appendicitis three years ago. Full recovery. Thirteen months ago loss of appetite and loss in weight. Family history negative.

Present State.—Weight 52 kilo. Emaciation and weakness very marked. Almost complete anorexia. Dull continuous pain over gastric region; slight tenderness over region of the gall bladder. This is only elicited at intervals. Stiller's sign absent. Abdomen is distended to the utmost in both the gastric and umbilical regions. Ten c.m. below the umbilicus the resonance of percussion takes on a lower pitch. (Percussion from above downward.) No stool the last ten days. Patient

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vomits continually, which consists of a foamy, brownish, malodorous mass, made up of fermenting food remnants. Total absence of HCl free or combined. Presence of an immense number of sarcinæ. No Oppler-Boas bacilli. Stomach is emptied by means of the stomach tube; 1½ liters of fermenting stomach contents are brought forth. Gas evolved by fermentation is CO^2. No lactic acid. After evacuation of the stomach the same is washed with salt solution. Distension over gastric region has now disappeared. The stomach is artificially inflated with air; lower border is found 10½ c.m. below the umbilicus. The partly inflated stomach containing water which is introduced for diagnostic purposes shows the lower border of the stomach 8 c.m. below the umbilicus. Determination by gurgling sound on introduction of air. An attempt to outline the colon by inflation proves too painful and is abandoned. Colonic treatment results in copious stools. Patient feels comfortable. This treatment is continued and the stomach contents are tested daily. After seventh treatment free and combined HCl are evident. Appetite improves and stool every two or three days. All stools contain reduced bile pigments; no blood at any time; never any blood in stomach contents. (Examination according to Weber's method.) In spite of moderately large meals patient continually loses in strength and weight. Percentage of urea ranges from 20 to 28 grams in 24 hours. As soon as a day is allowed to pass without gastric lavage there is rapid accumulation of gas with consequent painful distension of the stomach. This is particularly noticeable when the patient assumes an upright position, or sitting posture. On the seventh day of observation the lower border of the liver is felt for the first time, and a distinct hardening can be felt at the site of the gall bladder. The hardening appears to be in the liver substance. Pressure on this nodular hardening, for instance, on attempting to palpate the gall bladder from below, elicits moderate pain. On distension of the stomach this hardening can not be felt. Never any icterus. Spleen moderately large. The highest total gastric acidity reached was 25, of which 7 were free HCl. After this amount had been reached, the quantity gradually decreased until about two months later it disappeared completely and remained absent until death. Boas' gallstone sign, on pressure pain in region to the right of tenth dorsal vertebræ could not be elicited.

Diagnosis Intra Vitam.—Carcinoma of the gall bladder; kinking of the duodenum; enormous dilatation of the stomach.

AUTOPSY.

In the report of the necropsy only such findings will be mentioned as are considered relevant.

Necropsy was performed six hours after death. Protocol, Dr. M. A. Kleinhans. Abdomen tensely inflated. On opening the peritoneal cavity an enormously dilated stomach tensely filled with gas is evident, which had pushed the colon down into the large pelvis. Only a moderate degree of gastroptosis. On turning the fundus and greater curvature of the stomach upward the gas contained in the stomach can be expelled into the duodenum. The pylorus and duodenum are firmly adherent to the dorsal surface of the liver. The pancreas is, to some extent, enveloped in these gastric adhesions. No gall bladder is visible or tangible. In its stead is a circumscribed firm, slightly elastic hardening in the liver substance. Stomach, liver, pancreas and spleen—which latter is not enlarged—are taken out together. Weights and measures of the organs are all within normal limits except the measurement of the stomach. Serial incisions into the liver reveal an ovoid tumor of white color at the site of the gall bladder. This tumor is directly continuous with the serosa of the stomach and duodenum, and also with the pancreas by means of a slightly elastic tissue bridge. Liver substance shows distinct lobulation, increased periportal connective tissue, especially around the larger bile ducts.

Stomach.—Stomach contains about a half liter of undigested food. The mucosa shows no rugæ. The usual petechia on posterior wall; disseminated plaques of smooth, grayish mucosæ, which are diagnosed and proven by microscopy to be atrophic areas. No bile discoloration of the stomach. No thickening of the mucosa anywhere suggested carcinoma; no ulcers, deep or superficial. Pyloric orifice patent. In the posterior wall of the antrum pylori a hard thickening is seen and felt. It contains crepitating material. The highest point of this elevation is devoid of mucosa. The mucosa is replaced by connective tissue. The thickening is incised, and two gallstones, one the size of a filbert, the other the size of a small pea, are found therein. The gallstones were only slightly facetted and medium hard. The floor of this cavity which contained the stones is formed by the substance of the above mentioned tumor in the liver. The tumor formation had evidently forced the gallstones into their present position. No cystic duct could be made out. Hepatic duct is uninterruptedly continuous with the common duct, and the whole duct is patent. Diffuse fibrosis of the mucosa of this duct. No scar or other mark which might designate the entrance of the former cystic duct. Pancreatic duct is patent and enters the duodenum at 1 c.m. distance from common bile duct. Pancreas moderately sclerosed.

Now, all the length of the intestinal canal is explored, together with the genitalia, uropoietic organs, likewise the contents of the thorax, but no evidence of carcinoma is found.

Heart.—The right ventricle of the heart contained a large marantic thrombus, which had occluded the sinus venosus and branched into the pulmonary artery.

It being a private case, the privilege of opening the cranium was denied.

Anatomic Diagnosis at Time of Autopsy.—Primary carcinoma of the gall bladder; adhesions with pylorus of the stomach, duodenum, and pancreas. Enormous dilatation of the stomach. Cause of death, probably occlusion of the sinus venosus by marantic thrombus. (Patient died with symptoms of apnea.)

After examination microscopically the diagnosis is changed into primary endothelioma of the gall bladder.

DESCRIPTION OF ILLUSTRATIONS.

Pathology.—Figure 1 shows the gross appearance of the tumor located in the lower dorsal aspect of the liver at *a*. The white tumor substance merges gradually into that of the darker liver substance; *b* represents the pylorus and duodenum. The serosa of these two last named organs is seen to be nodularly swollen; *c* shows the increase in the portal connective tissue.

Figure 2 shows the liver and stomach, in order to demonstrate their relative size. It is plainly seen that there is no obstruction of the pylorus, but simply adhesions by means of the serosa. The comparison between the sizes of the two organs, stomach and liver, will at once convey the excessive degree of dilatation of the stomach (*a*). Rosenheim (Krankheiten des Verdauungs-Apparates) states in a differential diagnosis between liver and gastric cancers, that *"Gallenblasen-Carcinome bedingen meist keine Dyspepsie und niemals Ectasie."* A number of authors, including American and French, have, I think, thoughtlessly, repeated this statement. I have seen five cases of carcinoma of the gall bladder during the last year, four of which showed an immense ectasia of the stomach. Figure 3 represents a transverse section through the whole liver, together with an immensely dilated stomach for comparison. In this case, as in the case of endothelioma (Fig. 2), there was no involvement of the mucosa of the stomach whatsoever, and only a slight, easily separable adhesion of the stomach and the under portion of the gall bladder. In one more case of the four that showed signs of dilatation of the stomach during life, I have performed the autopsy which revealed similar conditions as seen in Figure 3. One case is still alive, but since an exploratory laparotomy was performed I had an opportunity to see the dilated stomach in that case. Rosenheim's statement, therefore, can-

not be considered of any value in differential diagnosis between carcinoma of the stomach and gall bladder.

Histology.—A large number of specimens of tissues of all regions were examined. The liver tissue remote from the tumor shows a moderate degree of increase of the periportal connective tissue with new formation of bile ducts. This suggests interstitial hepatitis. The connective tissue, however, does nowhere invade the lobules proper. Study of the individual liver cells shows them to be fairly normal. Epithelium of the old and new formed bile ducts shows no tendency to atypical proliferation anywhere. The connective tissue immediately

Fig. 1.—Vertical section through liver. *a*. Endothelioma. *b*. Pylorus. *c*. Pericholangitis.

surrounding them is in active proliferation (pericholangitis).

In Figure 4 the margin of the tumor is made up of connective tissue containing foci of round cell proliferation (*a*). The individual liver cells surrounded by this connective tissue formation (*b*) are entirely normal. The blood capillaries of this liver tissue are slightly overdistended. This congestion is thought to be due to prolonged agony.

Figure 5, from a section taken about 1½ c.m. away from the margin toward the center of the tumor, also shows mostly connective tissue, young and old, but containing strings of polymorphous large cells, the cytoplasm of which takes a deep eosin stain. In some areas these cells are seen to rise from oblong spaces or narrow slits, which I take to be lymph spaces. Where there is a large number of these cells, those marginally situated seem to undergo gradual fibrillation, and it is then extremely hard to make out the dividing line between the connective tissue proper and the tumor cells.

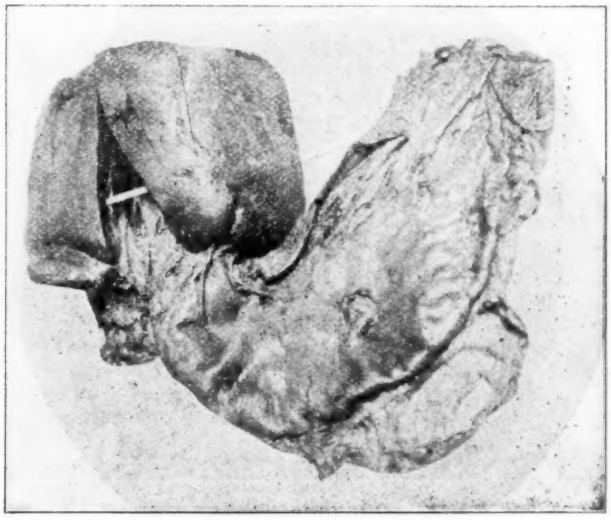

Fig. 2.—Endothelioma of the gall bladder, with dilatation of the stomach. *a*. Pylorus. *b*. Endothelioma.

The cells contained in the center of the larger aggregations undergo hyaline degeneration. No karyorrhexis; no vacuolization. In other areas the centrally located cells of the cluster seem to lose their cytoplasm and then resemble common small lymphocytes. The change of the cells, or decrease in the size of the cells from the margin toward the center of the cluster, is extremely gradual. Necrosis described by Adler in his paper on "Endothelioma of the Pleura" was not found in this case.

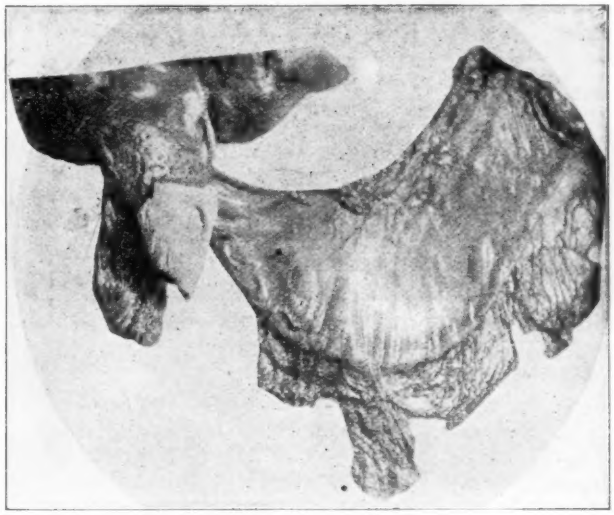

Fig. 3.—Cancer of the gall bladder, with enormous dilatation of the stomach. Adhesion to skin.

The serosa of the stomach and duodenum affords a better opportunity to study these cells as following the course of the lymph spaces. Extensive serial sections were made.

Figure 6 shows a section through the serosa and muscularis of the pylorus (low power). The thickened serosa extends from *a* to *a*. Within it can be seen strings

of the above described polymorphous cells surrounded by a rather voluminous connective tissue stroma. This connective tissue stroma contains numerous foci of round cell proliferation.

Figure 7 shows an area of the serosa under higher power; *a* represents a string of endothelial cells cut

Fig. 4.—Hem. Eosin. Leitz, obj. 3. Section from margin of primary tumor. *a.* Connective tissue (inflammatory). *b.* Liver cells.

longitudinally; *b*, a similar string cut transversely; *c*, an irregularly branching cluster of endothelioma cells. The stroma is seen to contain numerous young connective tissue cells.

Figure 8 is a section prepared from the above-mentioned tissue bridge between the gall bladder and the

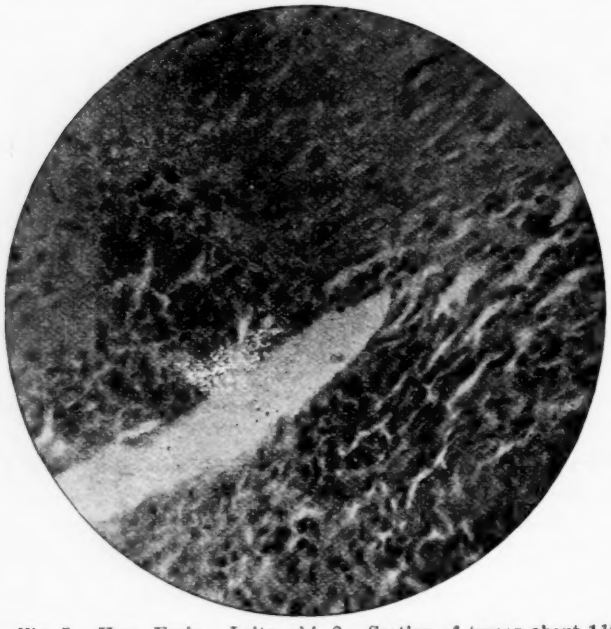

Fig. 5.—Hem. Eosin. Leitz, obj. 6. Section of tumor about 1½ c.m. inwardly from margin of primary tumor. Shows fibrillation of older tumor cells.

pylorus and duodenum. It shows exactly the same structure as does the center of the primary tumor; *a* represents the center of a large endothelial cell cluster. Distinct fibrillation of the endothelial cells at the margin of the cluster.

Figure 9 shows the cluster of tumor cells in serosa of the duodenum. The nuclei of the cells seem to be swollen (vesicular), the chromatin filaments stain distinctly; at *c* is cell with giant nuclei. Numbers of these giant cells, and also polynuclear giant cells were observed. There are a great number of cells which showed degen-

Fig. 6.—Hem. Eosin. Leitz, obj. 3. Section through serosa and muscularis of duodenum. *a-a.* Serosa. *b.* Muscularis.

erative coalescence of several nuclei, thus forming a long, sometimes semi-circular, sausage-shaped nucleus. At *a* and *b* atypical mitoses, of which all varieties were present. Abortive mitoses, clumping of the chromosomes were especially frequent.

Figure 10 is taken from the same slide as Figure 9.

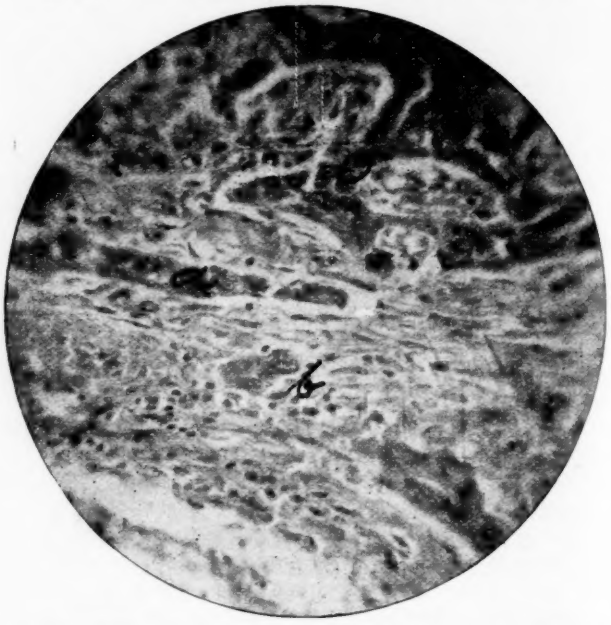

Fig. 7.—Hem. Eosin. Leitz, obj. 7. Area from Fig. 6 under higher power. *a-b-c.* Strings of endothelial cells.

In the center a cell is visible with a giant nucleus; in the cytoplasm a dead polymorphonuclear leucocyte. The nucleus of this leucocyte is undergoing karyolysis, the cytoplasm of the leucocyte is represented by a light ring around the fading semi-circular nucleus. Many in-

clusions similar to this one, with all gradations of degeneration, were observed. (Russell-Plimmer-Leyden-Schueller's Bodies.*)

In the lymph spaces, dilated excessively, the polymorphous "tumor cells" seemed to be suspended in the serous fluid (Fig. 8, *a*). An attempt was made to determine the chemical nature of this fluid in the fresh condition, but, owing to the small quantity obtainable, the attempt was unsuccessful. This much, however, was ascertained: The fluid did not contain any mucin; it may have contained pseudomucin, such as is found in numerous connective tissue tumors, but it was not viscid enough to consist entirely of this substance, or contain a great deal thereof. It did not ferment when brought in contact with yeast cells. It gave the reaction of albumin. The presence of small, round cells, scattered promiscuously through the polymorphous elements, suggested the interpretation of the fluid as lymph. (?)

DETERMINATION OF THE CHARACTER OF THE GROWTH.

These microscopic findings being incompatible with the diagnosis of carcinoma, and agreeing in every detail

Fig. 8.—Hem. Eosin. Leitz, obj. 3.—Section of tissue bridge between liver and duodenum and stomach. *a*. Center of dilated lymph space filled with endothelial cells. *b*. Fibrillation of peripheral cells.

with the histopathology of endothelioma, the latter diagnosis was held as the correct one. Endotheliomata have been described by a great number of authors, and under a multitude of names, endothelial cancer, perithelioma, alveolar sarcoma, sarco-carcinoma, etc. I am not inclined to enter into the nomenclature of the subject, since that would lead to an almost endless discussion. A group of investigators believing the nature of endothelioma to be entirely or partly inflammatory, have proposed names like lymphangitis proliferans, and to convey also the neoplastic idea, lymphangitis carcinomatoides. One thing is certain, that a large number of sarcomata of organoid structure have been described as endotheliomata, which were common angiosarcomata, peritheliomata or hemangioendotheliomata. I do not see the necessity of classifying these tumors as endotheliomata, since we know that the majority of sarcomata originate from the perithelium or endothelium of the blood vessels anyway.

* With apologies to those discoverers whose names have not been mentioned.

Morphologic peculiarities are no criterion for the classification of tumors. This is shown by the confusion brought into the subject of endothelioma by the morphologic classification suggested by Hanseman.

If we, however, reserve the name of endothelioma exclusively to those neoplasms which are the result of an

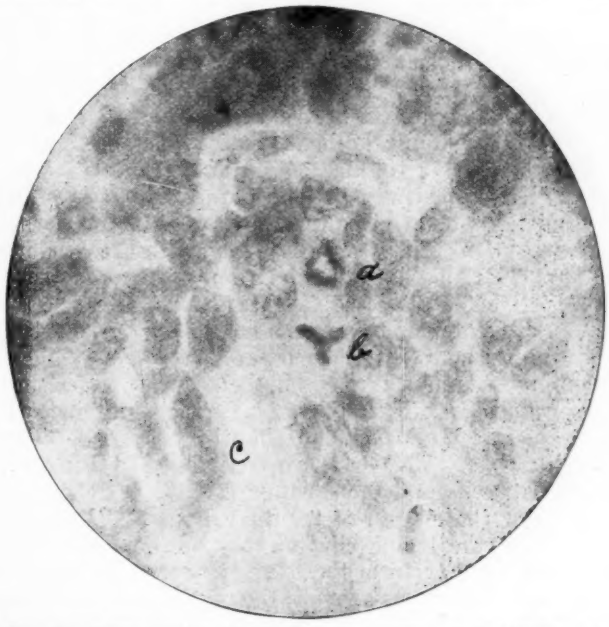

Fig. 9.—From center of alveolus in serosa of duodenum. *a*. Asymmetrical mitosis. *b*. Atypical, tripolar mitosis. *c*. Endothelial cells with giant nucleus. Suffranin. Leitz, 1/12.

abnormal proliferation of the endothelium lining the lymph spaces and serous cavities, we have well-characterized, clear-cut tumors.

That the name of lymphangitis proliferans is also justifiable will be shown below, for I think the inflammatory character of the tumor which I have described

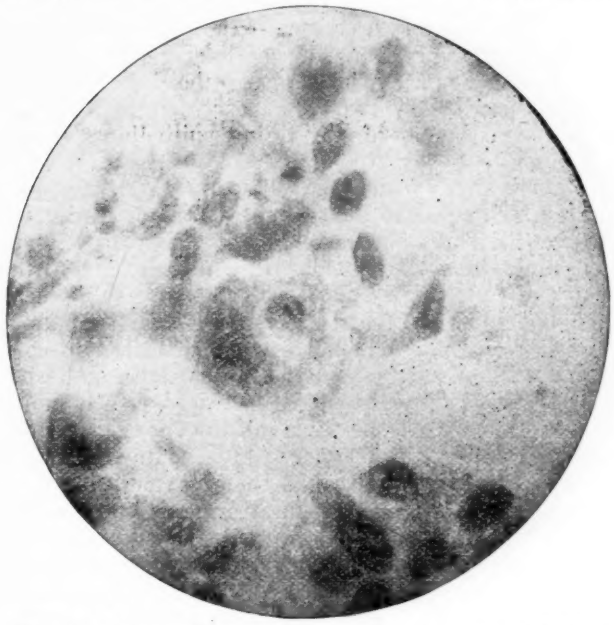

Fig. 10.—Polymorphous endothelial cells. In center of field cell with giant nucleus containing a leucocyte. Saffranin. Leitz, 1/12.

can not be questioned, at least the primum movens of the proliferation of the endothelial cells is of a nature the same as that found in chronic inflammations.

In a number of endotheliomata which I had the opportunity to study, I have never seen any endothelial

proliferation in the lymph spaces unless the surrounding tissue was also in a state of inflammatory hypertrophy. This observation is adduced by Neelsen as an argument in favor of the inflammatory character of the new growth. In addition to this one can easily see that the filling up with cells of the lymph spaces is not the result of an invasion of cells, as we see it in carcinoma and sarcoma, where the elements first get into places not their legitimate habitat, proliferate, and then destroy the surrounding tissue. In the true endothelioma there is first a swelling of the resident cells due to irritation (Reiz Anschwellung, Pollman), most likely of chemical nature, perhaps a cellular poison as described by Ehrlich. Thereafter the proliferation again of these same resident cells takes place in answer to the same formative irritation; dilatation of the lymph space follows. It is evident that the differentiation of the endothelial cells will be lost, or will at least suffer through this onslaught, and anaplasia will result. But this anaplasia may run through "physiologic" gradations. The highly differentiated mesodermic endothelial cells will change into connective tissue cells of a lower type, and will share the fate of all common connective tissue cells. They will fibrillate. This is shown strikingly in Figure 5. The older cells undergo fibrillation first, namely, those seen along the margin of the dilated spaces. Being remote from the lymph current they are deprived of an opportunity to perform their function, even if they were able to perform it; as a result, the cells resign themselves to the quiescent state of fibrillation. This is incompatible with anaplastic, blastomatous carcinoma or sarcoma cells, but is known as the routine process in inflammatory scar tissue formation, i. e., the cells do not maintain the blastomatous character of malignant cells.

The regional expansion of the process may be explained thus: The primary formative irritant was furnished by the presence of the gallstones in the gall bladder, perhaps with an addition of micro-organisms (which were not found). Or there may have been at first an inflammatory occlusion of the cystic duct. The lymphatics of the gall bladder had to remove the altered contents of the same. The change in the chemism of the substance carried by the lymph spaces caused the inflammatory changes of the lining epithelium, as described above.

The cells thus vitiated secreted in turn a vitiated substance which acted as the formative irritant to the adjoining still normal endothelial cells. In this method a circulus vitiosus is established. Experimental pathology and physiology may be able to prove these ideas some day.

Other retrogressive metamorphoses described in connection with endotheliomata, as myxomatous, and especially hyaline degeneration, are likewise frequently found in other common chronic inflammation, viz., in certain forms of peritonitides, zuckerguss exudates, etc., and in a great number of so-called benign tumors.

Furthermore, there is not an area in the tumor where there is not common inflammatory tissue surounding the tumor cells proper, no matter how few they may be in number. Even in the extreme ends of the tumor where the endothelial cells are simply swollen and not multiplied, there is lively inflammation in the surrounding connective tissue. This, also, is unlike the peripheral growth of both carcinoma and sarcoma. We see a round cell sarcoma invade the normal muscular structures, a carcinoma metastasis in a normal lymph node, etc. Specimens stained with Sudan 3 (Formalin-freezing sections) showed numerous endothelial cells containing fat droplets. These are most likely the "vacuoles" found and described in hardened specimens of endothelioma by Adler and others. The significance of these fat drops is not easily explained. Thoma has found that the covering endothelium of the serous surfaces absorbs albumin contained therein into fat. It may be that such a process went on in this endothelioma. The cells certainly do not show any fatty degeneration, but that there is an energetic metabolism going on in the cells is shown by the presence of the serous exudate filling and dilating the affected lymph space (Fig. 8, *a*). I can not believe that this liquid is a simple transudate since there was only an inconsiderable quantity of fluid in the free peritoneal cavity.

METASTASES.

In the tumor here described there was no metastasis; in two more which came under my observation, one of the peritoneum (Dr. E. F. Fish's case), and another of the skin, they were likewise absent. The cases reported in the literature of the last twenty years show about 50 per cent. with metastasis, but I have noticed in the illustrations that a number of these appear like common angio-sarcomata, i. e., the tumor cells are not found restricted to the lymph spaces. Neelsen, who described a number of endotheliomata, lays especial stress on the fact that the cells proliferate *in loco* and do not immigrate. But he has metastases. Wagner could not find any secondary tumors in a woman of 69, where all the tumor cells were within the lymph spaces. In a great many cases the metastatic tumors were found in the vicinity of the primary one; in these instances it is doubtful whether there was not a contiguous growth, as not one report mentions reconstruction methods as a means of ascertaining true metastases. Age and sex do not seem to affect the frequency of occurrence of endothelioma.

Hereditary influence has not been proven in man. Eberth-Spude have seen endothelioma in several members of a family of white mice. Transplantation has been unsuccessful.

OTHER CONCLUSIONS.

Endothelioma, hemangio-endothelioma and perithelioma may be blastogenetically alike, but the first tumor differs materially from the last two in the mode of growth, histology and clinical aspect. One need but think of the functional difference of the normal elements to appreciate this fact.

Endotheliomata are only relatively malignant. A great number of tumors reported under this name are essentially inflammatory.

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THE OPERATIVE TREATMENT OF CYSTOCELE AND PROCIDENTIA UTERI.

E. C. DUDLEY, M.D.
CHICAGO.

The evolution of the operative treatment of cystocele and rectocele with resultant procidentia includes the following essential factors:

1. Operations of superficial denudation and reefing of the anterior vaginal wall as practiced by Sims and Emmet.

2. Operations on the lateral vaginal walls with superficial denudation, as described by myself and others.

3. The recognition of the essential fact that no operation can succeed that does not include plastic work on the lateral and anterior vaginal fornices with the definite purpose of forcing the cervix uteri back to its normal location in the hollow of the sacrum.

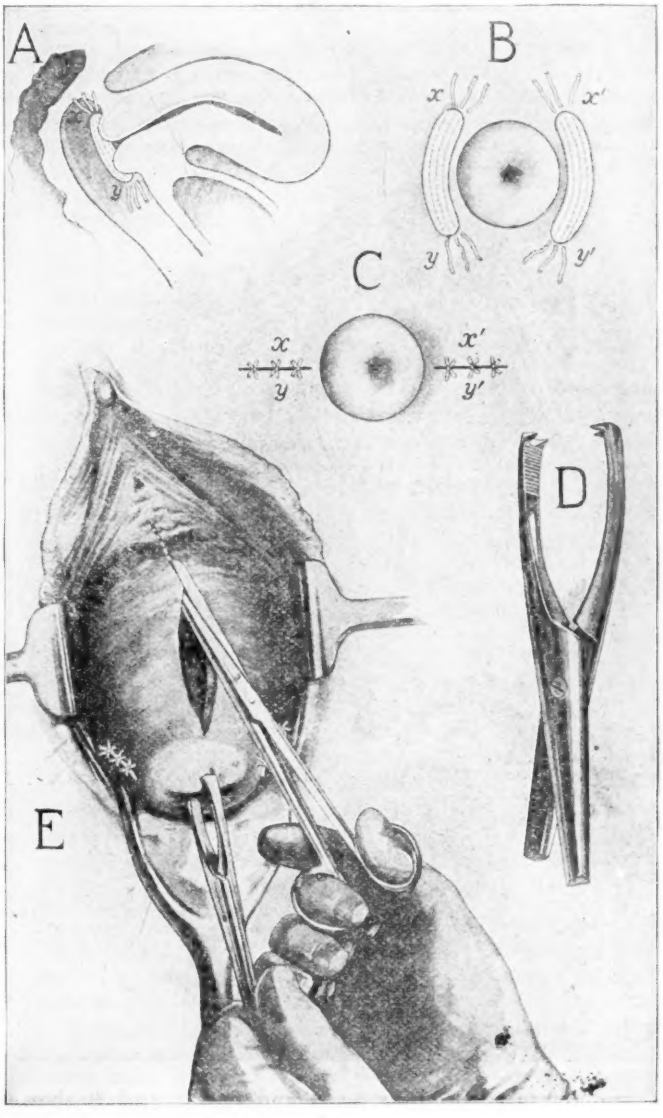
All these measures have been employed with varying success, the variation being dependent on the ability of the operator to force the cervix uteri back into the hollow of the sacrum and to make it stay there. This location for the cervix is the prime indication. With the cervix uteri in its normal posterior location, the corpus uteri must necessarily fall forward into its natural position of anteversion.

The methods above outlined, even though supplemented by hysterorrhaphy, have so frequently failed to give permanent results that many surgeons advocate the more radical alternative of hysterectomy. Of late, however, the essential principles and indications on which successful plastic work may be done are becoming more clearly defined. Dr. Edward Reynolds[1] of Boston sets forth two anatomic points which in the previous literature have not been very clearly brought out, but which necessarily underlie the success of this class of operations. They are: 1. That cystocele is hernia of the bladder and should not be treated by superficially denuding and reefing in the overstretched portion of the vaginal wall, but that this overstretched portion should be removed and the lateral margins of it should be united by interrupted sutures. In other words, this hernia should be treated like other similar conditions by reduction and the excision of the sac so as to expose and unite the strong, fixed facial margins of the wound. 2. A successful operation must recognize two fixed points of attachment of the anterior vaginal wall; the first at its lower extremity to the inner surface of the pubes; the second at its upper extremity to the facial structures on either side of the uterus, which are in direct connection with the broad ligaments. Accordingly, I have made radical changes in my method of elytrorrhaphy for the correction of cystocele and procidentia uteri. The modified operation which I have performed several times with most gratifying results may be divided into two steps, and is briefly as follows:

1. A crescentic denudation and suturing in the vaginal wall on each side of the cervix uteri.

2. The removal of a portion of the anterior vaginal wall and suturing together of the wound thus made.

FIRST STEP.—The first part of the operation is performed preferably with the patient in Sims' latero-prone



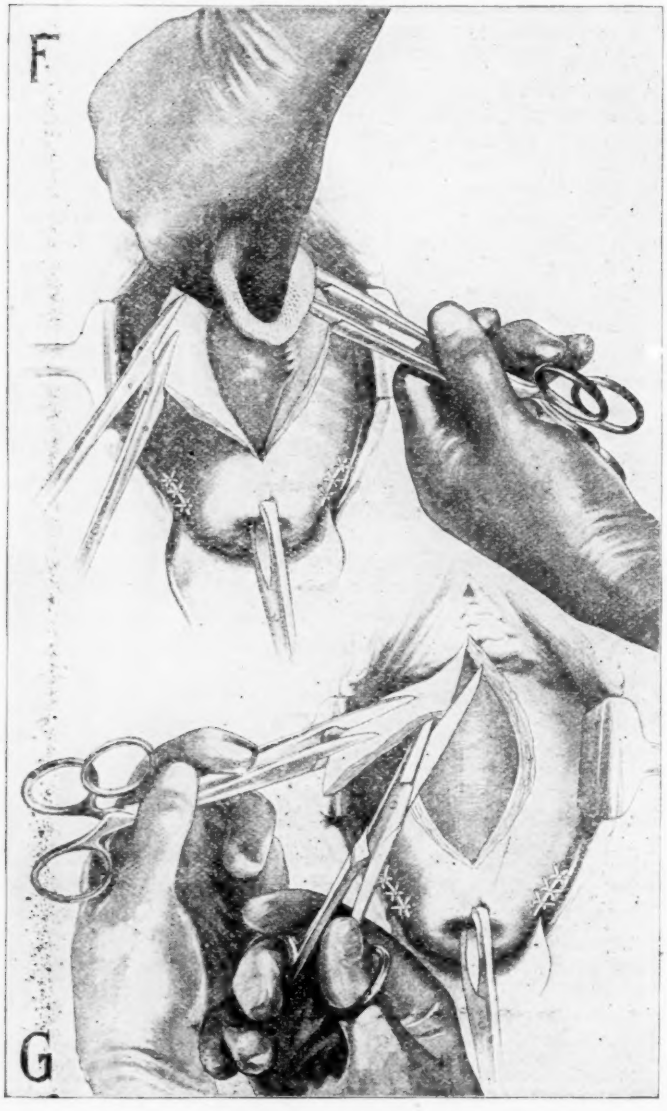
position and the vagina exposed by means of Sims' speculum. The blade of the speculum should be perforated at the extreme end. Before the speculum is introduced the cervix should be attached to the end of the blade by means of a temporary suture which is passed through the posterior lip of the cervix and the perforation in the speculum and tied. This suture should remain in place throughout the first step of operation. The object of this temporary stitch is to hold the cervix uteri far back in the hollow of the sacrum while the sutures are being secured which shall fix it there. When the cervix is thus held back the space anterior to the cervix is so increased

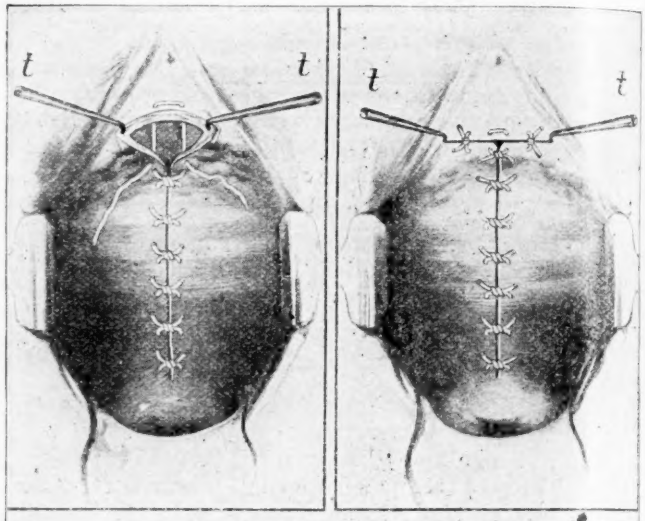
1. An epoch making paper on this subject has recently appeared from the pen of Dr. Edward Reynolds, American Medicine, Aug. 2, 1902.

that the corpus readily falls forward into a position of decided anteversion; that is, into the normal position. It is essential that this part of the operation be performed with the organ in normal position, because if so performed the result is more likely to be permanent. Two semi-circular strips are denuded in the vaginal wall close to the uterus about one-half of an inch wide on either side of the cervix, their convexity being turned toward the cervix. This denudation is shown in Figure B, *x y* and *x' y'*. This denuded surface is shown on one side of the cervix in Figure A, *x y*. Each denuded surface is now closed on itself by means of fine chromic catgut sutures, Figures A, B and C. A and B show the sutures in place, but not tied; C shows them tied and also the lines of union running laterally from either side of the cervix. The folding of these denuded surfaces on themselves causes their lower extremities *y* and *y'* to be brought in contact with their upper extremities *x* and *x'*, Figures A, B and C. By this means the cervix is lifted upward and backward toward the hollow of the sacrum and held there.

SECOND STEP.—The second step in the operation is performed with the patient in the dorsal position, the parts being exposed by means of a Sims speculum or a Simon retractor. The operation is now continued as shown in Figure E, then in Figures F and G, then in Figures 1 and 2. Figure E shows the lines of union lateral to the cervix uteri made in the first step of the operation and shows the incision being made by sharp-pointed scissors through the vaginal wall, but not including the vesical wall, from a point near the cervix uteri in the median line of the vagina to a point near the meatus urinarius. The dotted lines in Figure E indicate the extent of this median incision. While the incision is being made the cervix is held securely in place by means of flat vulsellum forceps, a full-size section of which is shown in Figure D. Figure F shows the vaginal wall being stripped off from the vesical wall. The operator has seized the margins of the flap in pressure forceps and is stripping it away from the vesical wall by sponge pressure. This will be found a very effective method of blunt dissection. The flap on the opposite side is held in pressure forceps and is represented as already stripped off. In Figure G the loose flap has been removed by means of scissors from one side and is being removed from the other side. Figure 1 shows the median vaginal wound nearly closed by means of chromic catgut sutures. Experience in this operation has shown that in the majority of cases there is considerable redundant vaginal wall in the region of the

Figure 1. Figure 2.





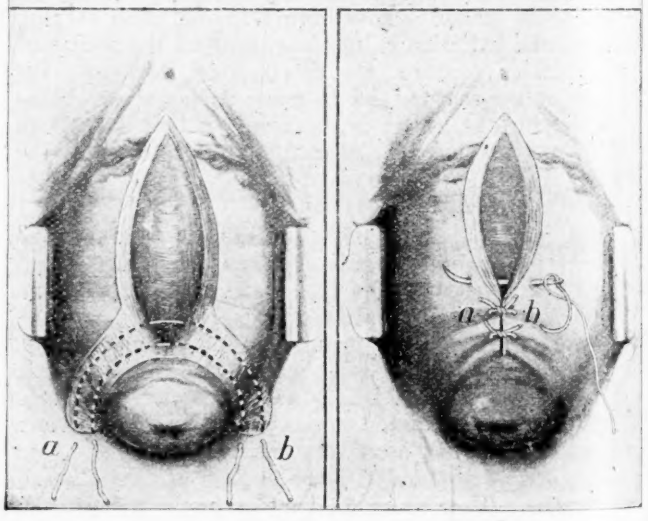


Figure 3. Figure 4.

urethra which may be disposed of most effectively by uniting the wound in a transverse direction. Accordingly the lateral margins of the wound are shown as being drawn apart by tenacula, *t. t.* A single stitch introduced but not tied shows how this portion of the would should be united. Figure 2 shows all sutures introduced and the operation complete. The tenacula are the same as shown in the previous figure.

It is extremely essential in this operation that the entire thickness of the vaginal plate of the vesico-vaginal septum be removed, as shown in Figure G. The former method of merely denuding a superficial surface is ineffective. It is unnecessary to add that this operation should always be supplemented by a perineorrhaphy.

Figures 3 and 4 are here introduced to show a method of denuding and introducing sutures so as to force the cervix uteri back into the hollow of the sacrum. This method is offered as a substitute for the one shown in Figures A, B and C, and will be found most applicable to cases of extreme relaxation of the pelvic floor. In principle it is the same as that employed many years ago by Sims, Emmet and others. Figure 3 shows a circular denudation in front of the uterus extending on either side to the post-vaginal fornix. Two sutures are shown in place but not tied. Three sutures are generally used instead of two. These sutures, when tied, will draw the loose vaginal tissues on either side of the cervix to the front of it so as to bring points *a* and *b* together in front of the cervix, as shown by Figure 4, *a, b.* The structures thus brought in front of the cervix uteri are in close relation with the broad ligaments; hence the effect is to bring the lower margins of these ligaments to the front of the cervix and so to force the cervix upward and backward. Reynolds prefers to expose the lower margins of the ligament and to introduce the sutures directly through them. In Figure 4 a threaded needle is being introduced to complete the closure of the median vaginal wound. This part of the operation is the same as in Figs. 1 and 2.

The accompanying figures show the cervix drawn well down to the vulva. This is not in accordance with the fact. The cervix, as already explained, is held well back in the hollow of the sacrum during the operation. The appearance of drawing the cervix downward to the vulva is only introduced to facilitate illustration.

PROGRESSIVE BULBAR PARALYSIS.*

ALFRED C. COTTON, A.M., M.D.
CHICAGO.

Kitty M., aged 11 years, an American schoolgirl, first came to my clinic Jan. 17, 1902.

Family History.—Mother living and well; father died of pneumonia; she has four brothers and sisters in good health; both maternal grandparents lived to old age; her paternal grandmother developed some form of paralysis after childbirth. Her paternal grandfather was paralyzed late in life, and had some disturbance of speech which passed away before death.

Previous History.—Birth and early history negative except for the usual diseases of infancy. She had pneumonia when six years of age; diphtheria three years ago and again last April (1901) from which she apparently made a good recovery. For the past two or three years the mother has noticed more or less impairment of hearing.

Present Illness.—Early in September the mother detected slight difficulty in swallowing and some defect in the child's speech; it seemed as if there were something in the mouth. About the middle of September she was sent home from school with instructions to have her eyes tested. This was done and she was given glasses for astigmatism.

Drooling and speech defects led to a consultation with a throat specialist, who advised the removal of postnasal adenoids. The operation was performed about the 1st of October. She had occasional fits of obstinacy and cried frequently, i. e., she was emotional, but showed no evidence of impaired mentality. Speech and deglutition became increasingly difficult, so that the hand was occasionally employed to retain food in the mouth.

Examination.—A girl of average size for her age, but somewhat pale and poorly nourished. The expressionless face, fallen lip and drooling mouth first arrest attention. She answers questions indistinctly and laboriously; the speech defect shows inability to pronounce labials and denti-linguals; she can not wrinkle the forehead, elevate the eyebrows, close the eyes completely, purse the lips or smile; the tongue can not be protruded beyond the teeth or raised to the roof of the mouth; it is thickly coated, plainly shriveled and lies passively in the floor of the mouth with occasional flickering tremors. The pharynx presents no gross lesions, but the uvula and palate show some anesthesia; the voice is monotonous and of nasal quality; the mouth is full of saliva which pours over the pendulous lip; the child masticates food slowly and swallows with marked difficulty, at times choking and coughing. Fluids do not regurgitate through the nose, nor is there any history of this symptom. The respiration is shallow and under excitement or exertion becomes slightly snoring; she also snores while asleep.

The examination of the ocular fundus and ear by Professor Hotz gave negative results. Pupillary reflex normal. The range of ocular movements is somewhat restricted toward the right. Slight horizontal nystagmus is at times noticeable. She can not close the eyes completely, prolonged effort causing parallel deflection upward and to the left. Eyes are constantly suffused, and there is conjunctival anesthesia. The general muscular system shows but little wasting. Patellar reflexes normal and co-ordination good. Electrical response to both galvanism and faradism normal, with the exception of the facial muscles, which show reaction of degeneration. A. O. C.= 2.5 M. A., C. C. C.=4.5 M. A., A. C. C.=4.5 to 5 M.A. There is no response to faradism (the strongest current) in the facial muscles. (Tested by G. W. Hall, M.D.) No anesthetic areas, either thermal or tactile, were found except on palate and conjunctiva. No tremors were present, except occasional fibrillary twitchings of tongue and facial muscles. Taste as far as observed is not affected. Chest examination negative with exception of systolic murmur; abdomen negative; urine negative.

Subsequent History.—The child was under observation during the last weeks of her life, during which time inanition was steadily progressive, with loss of weight. Towards the last she showed increasing somnolency, disinclination to exertion, and staggering, uncertain gait. Impairment of speech, deglutition and tongue movements increased. In the last two weeks fluids were regurgitated through the nose. A few days before death she developed a slight bronchitis with some elevation of temperature (103).

Throughout the observation until the last weeks the highest temperature was 100.4, the lowest 97, with a tendency to be subnormal. The pulse ranged from 70 to 120 and was easily disturbed; respiration, 20 to 26.

She died rather suddenly the night of April 7, 1902.

Bulbar paralysis is certainly so rare a disease among children that no apology is needed for bringing it to your attention. As you will recall, this disease was described for the first time in 1860 by Duchenne, and it was not until ten years later that the real seat of the lesion was recognized by Charcot and Leyden.

The fact that the symptom-complex of glosso-labio-laryngeal paralysis may accompany lesions other than the degenerative process in the nuclei of medulla, would excuse a brief consideration of the classification given by Collins in "Twentieth Century Practice."

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

This author presents these paralyses with reference to their etiology under eight heads. With your permission I will give them seriatim in comparison with the clinical findings of the case before us.

COLLINS' CLASSIFICATION.

1. Progressive labio-glosso-laryngeal paralysis.
2. Primary vascular lesions; (*a*) acute inflammatory; (*b*) bulbar hemorrhage; (*c*) thrombosis and embolism.
3. Bulbar neuritis (associated neuritis of bulbar nerves).
4. Infantile bulbar paralysis; (*a*) familiary; (*b*) hereditary.
5. Secondary degenerative lesions of the bulb; (*a*) in amyotrophic lateral sclerosis; (*b*) in syringomyelia; (*c*) in tabes and multiple sclerosis.
6. Pseudobulbar paralysis (cerebral).
7. Tumors of medulla oblongata, including gummata.
8. Bulbar paralysis without anatomic foundation (asthenic bulbar paralysis).

From his second class, due to vascular disturbances, this case may be excluded by its gradual onset and absence of acute symptoms, as fever, disturbance of pulse rate, vomiting, etc.

For the same reason (gradual onset) we may rule out class three, viz., associated neuritis of bulbar nerves, which condition not only causes a rapid development of symptoms, but is rarely reported as furnishing all the symptom-complex of true bulbar paralysis.

The fourth class (familiary or hereditary type) we may possibly exclude, for want of corroborative history, her brothers and sisters being free from any suggestion of similar trouble.

There is no evidence of any involvement of the cord, such as spasticity, increased muscular irritability or atrophy.

Lack of sensory disturbances, as analgesia, thermic anesthesia and also lack of muscular atrophies may exclude syringomyelia.

The persistence of the patellar reflex, absence of crises and the Argyll-Robertson pupil may allow us to dismiss tabes from consideration, and, although we have a slight nystagmus, the intention tremor, scanning speech, rigidity and exaggerated knee-jerks of multiple sclerosis are wanting. If, as it has been claimed, an isolated area of a developing multiple sclerosis have its seat in the medulla and produces the symptoms seen in this patient, may we not claim that it is time (seven months) for the symptoms of other scleroses areas to manifest themselves?

In pseudobulbar (cerebral) paralysis we should expect a sudden onset with possible subsequent improvement until there is a second attack, possibly hemiplegia; the atrophy should be that of inanition and the muscles should not show the reaction of degeneration. Especially is atrophy of the tongue wanting. Nor is pseudobulbar paralysis long free from other evidences of cerebral involvement, as mental impairment and emotional disturbances.

From tumor of the medulla it is possible that enough time has not yet elapsed for the development of sufficient symptoms to make positive differentiation. Indeed, we have already involvement of the upper facial muscles and slight involvement of the ocular muscles. However, the negative condition of the fundus, absence of sensory disturbances, cephalagia, etc., might lead us to exclude a tumor of any considerable size. The entire absence of any other signs of syphilis renders the diagnosis of gummata improbable.

Asthenic bulbar paralysis, without anatomic foundation, is not recorded as showing true muscular atrophy with the reaction of degeneration. Nor is its course steadily progressive; on the contrary, almost complete cessation of symptoms follows intervals of rest.

The extensive involvement of the facial nerve seen in this case, though not of itself a part of the symptom-complex of true bulbar paralysis, still occurs with sufficient frequency not to jeopardize our diagnosis, providing the pathognomonic symptoms be present. As to the ear involvement, the history of partial deafness for the past three years would indicate merely a coincidental condition.

It seems to the writer that from the symptoms present, the course of the disease and the onset, he is justified in classing this case as degenerative bulbar paralysis. The extreme rareness of this affection in a female child lends exceptional interest to this case.

AUTOPSY REPORT BY DR. P. BASSOE.

April 8, 1902.—The autopsy was held about eighteen hours after death and was limited to the removal of the brain and spinal cord.

General.—The body was poorly nourished. Rigor mortis slight. Lividity posteriorly. No external marks except an opening to the left of the umbilicus through which embalming fluid had been injected. No injection had been made into the vessels. The scalp and skull presented no changes. There were no abnormalities of the meninges. The brain and cord showed no changes externally and were immediately placed in a 10 per cent. solution of formalin in water and carefully suspended. An opening was made into the abdominal cavity from behind. The spleen was removed and found of normal size. The kidneys also of normal size, capsules not adherent, section dark red, cortical markings distinct.

Brain.—The brain and cord were sectioned later and showed no gross changes. After preliminary formalin hardening the medulla was placed in Müller's fluid. Serial sections will be made later. Pieces of cortex and cord were taken at the autopsy, placed in 96 per cent. alcohol, cut without embedding and stained by Nissl's method. In most of the ganglion cells of the frontal lobe a normal condition of the nucleus, nucleolus and Nissl bodies is seen. In a few cells the Nissl bodies between the nucleus and base of the cell have been broken up into fine particles, less deeply stained than the normal Nissl bodies. A number of vessels cut longitudinally are filled with red corpuscles. There are no perivascular infiltrations.

Motor Area.—The cells show distinctly outlined generally, centrally situated nuclei with nucleoli. In several cells there is a rim of unstained protoplasm around the nucleus, the stainable substance being arranged along the periphery of the cells as densely aggregated small granules. The vessels are normal.

Cervical Cord.—In specimens stained by the Marchi method degenerated fibers were scattered in every portion. They seemed more numerous in the direct pyramidal and cerebellar tracts than elsewhere. However, they were not numerous enough to leave marked gaps in Weigert-Pal preparations. The gray matter was normal. Marchi preparations from the lower portion of the medulla showed scattered degenerated fibers in the lateral columns. The posterior columns and pyramids were practically uninvolved, and show a normal number of fibers in Weigert-Pal preparations.

As stated before, the remainder of the medulla has not been examined yet.

DISCUSSION.

DR. J. M. DODSON, Chicago—I take it that the question in this case is one of central or peripheral lesion. The history of an antecedent diphtheria, of course, suggests itself in this connection, although the long interval that had elapsed from the last attack of the disease and the onset of symptoms seems almost to negative that possibility. Yet I think it does not do so entirely. I shall look with interest for the publication of the report of the complete postmortem findings.

DR. COTTON—Seeing this case for the first time in clinic, I made a snap diagnosis of bulbar paralysis as one of the possibilities, because of the symptoms presented. Meeting the mother afterward, I was surprised at her intelligence regarding the symptoms of paralysis, and I then found she had

been to other clinics. She had been encouraged to believe in the recovery of the child from the fact that a diagnosis of postdiphtheritic paralysis had been made in a neurologic clinic. The length of time intervening, however, between the attack of diphtheria and the occurrence of the paralysis was greater than I had ever seen in such a case. The fact that the disease had progressed three months before coming under my observation led me to exclude postdiphtheritic paralysis as we understand it by that name. The suggestion of intoxication from infection as affecting the function of nerves is, of course, a wide field for speculation, and the cases of pseudoparalysis without anatomic foundation remain yet unexplained. The autopsy thus far in my case seems to confirm the diagnosis; however, it would be just as interesting to us all if the autopsy were negative. That all the symptoms of bulbar paralysis should be present without any anatomic changes in the bulb or other nerve structures would certainly be remarkable. Such cases are recorded, however, as asthenic bulbar paralysis, according to Oppenheim and others, without anatomic lesion yet discoverable.

Special Article.

THE TYPHOID EPIDEMIC AT ITHACA.

(By our Special Commissioner.)

III.

THE IMMEDIATE CAUSE OF THE EPIDEMIC.

In casting about for some special cause for the epidemic, public attention naturally became focused on the fact that a band of Italian workmen had been employed in the work of preparing a dam site and reservoir projected by the Ithaca Water Company, the private corporation controlling the Six Mile Creek and Buttermilk Creek supplies. Considerable friction had been generated between the water company and the townspeople over the construction of the proposed dam, and public opinion seized, with a not unnatural avidity, on the presence of the Italian laborers as affording a satisfactory explanation for the outbreak. About 100 of these workmen were employed in the gorge of the stream at a point nearly one mile above the intake, up to about the middle of November, 1902, and during the months of November and December men and teams belonging to the town were also engaged in work on the dam and its surroundings. One gang of Italians was controlled by the contractors and one, working below the dam, by the water company itself. According to the statements of the officials of the water company, the Italians did not work in the gorge after November 14, and, although they remained at work in the vicinity for some time longer, all but twelve were discharged on December 12, and all were discharged on December 19. There is evidence that both the contractors and the officials of the water company were alive to the responsibility entailed by the presence of these workmen at this critical point, and that measures were taken to prevent the fouling of the stream. It is said that lime was used in large quantities for the destruction of and the disinfection of the excreta. At the same time, there is abundant evidence for believing that, however careful the supervision of the Italians may have been, contamination of the stream and its banks was not altogether prevented. Many observers testify to having witnessed in the neighborhood of the camps a state of things which was far from reassuring, and which, in the light of subsequent events, throws much suspicion on the presence of these men. No information can be obtained, however, regarding the occurrence of any case of illness among these workmen, and there is no record indicating that other than good health was maintained among the whole crew during the period of their work.

It is certainly a seductive hypothesis that the presence of these workmen is connected with the epidemic that followed a few months later, but after a careful examination of the site of the dam and the surroundings of the camps of the Italians, and after a consideration of the dates at which the workmen were employed in the gorge and the dates at which the early cases of fever developed, the writer is unable to find any convincing evidence for this view. The meteorological record shows that during the months of November and December, 1902, heavy rains and periods of thaw occurred several times, so that if infectious material in large quantities had been deposited by any of the Italians on the banks of the stream, such material would have been most likely to find its way into the water at a date considerably earlier than that which marks the beginning of the present epidemic. Furthermore, while it is conceivable that a typhoid convalescent with an infectious urine discharge, might have been present among the Italians during the period of their stay in Ithaca, it does not seem likely that either the character or the quantity of the infectious material discharged by such a convalescent would have been sufficient to produce a severe outbreak after the lapse of several weeks. The more plausible supposition that a mild or "walking" case of typhoid fever existed among the workmen, and that the washing into the stream of the accumulated bowel discharges of such a patient cause the present outbreak, seems to be rendered somewhat problematical by the utter absence of evidence that any such case existed and by the facts of the meteorological record. One is undoubtedly tempted to suppose that the presence of these workmen in the gorge is connected in one way or another with the outbreak, but, in view of all the facts, such a hypothesis must be accepted with some hesitation.

It seems, indeed, quite as reasonable to assume that a case of typhoid fever, possibly in a mild and unrecognized form, existed at some point on the Six Mile Creek watershed, and that the discharges from such a case either passed directly into the creek or were washed down from some one of the scores of privies that afford opportunity for such a mode of contamination. The sanitary history of Ithaca, as has been already pointed out, shows that infection of the water has probably occurred in the past on more than one occasion. The outbreak of fever in 1902, it should be remembered, was a spring epidemic only less severe than that of the present year.

In favor of the view that a case of typhoid fever existed somewhere on the watershed during the month of January, 1903, might be urged the fact that the extent and duration of the infection suggest the presence in the water of the stream of a very large amount of infectious material and also of a continuance of the infectivity of the water over many days. It should be kept in mind that the stream in question is small, that its current is swift, and that there is practically no storage, so that the conditions are radically different from those obtaining in the case of a polluted lake or reservoir. It is quite possible, as has been suggested, that material from an infected privy may have been spread as manure on the surface of a field bordering on the stream itself or on one of its rapidly flowing tributaries.

Certain analogies with the famous Plymouth, Pa., epidemic of 1885 at first inclined several observers to seek for some connection between the "January thaws" and the outbreak of typhoid fever in Ithaca, but such a connection, if it exists, is not obvious. As is well known, the period of incubation in typhoid is somewhat uncertain, but the best authorities agree that a period of at least eight to fourteen days generally precedes the manifestation of definite symptoms, and in many cases the incubation period is as long as twenty-one days, or even longer. It will be seen by reference to Table 2 that the maximum number of cases that occurred among the students developed during the three-day period, February 4-6, which would place the period of infection about January 21-23, if it were assumed that fourteen days had elapsed since infection. It will be noticed, however, that many cases of typhoid fever appeared among the students considerably earlier than this, and, even allowing for an incubation period as brief as eight days, some individuals must have been infected much earlier than January 21. This inference is confirmed by the undoubted fact that many cases of typhoid fever appeared in Ithaca during the week January 19-26. On January 26 one of the local papers *(Ithaca Daily News)* contained the statement that 73 cases of fever existed in the town, and this statement was one of the first published indications of the existence of an epidemic. During the following week many more cases were reported, and on February 2 237 cases were said to exist in Ithaca.

All these facts (see especially Table 2*) indicate that the active agency in the infection was operative during at least several weeks, possibly extending from the first of January to the middle of February. There is no conclusive evidence of a sudden outburst of infection confined to a few days and terminating more or less abruptly. On the contrary, the facts rather point to a specific contamination that persisted for several weeks. The meteorological table shows that there was an extended thaw lasting from the first of January to the fourth; a slighter one about the middle of the month (Jan. 16-17), and the most marked of all January 27-30. It is certainly possible that the thaw early in January may have had some connection with the first cases to be reported, but if that were true one would expect that the onset of the epidemic would have been marked by a more explosive character than was actually the case. As a matter of fact, the beginnings of the outbreak were apparently quite gradual. It may be noted, for example, that the first patient was admitted to the University Infirmary on January 23, a date some days after cases of typhoid fever had made their appearance in the town, and it was not until about February 1 that the number of cases among the students began to assume highly alarming proportions. The most extended thaw of all, January 27-30, does not seem to have had any noticeable effect on the number of cases, unless one assumes that the cases developing between February 4-6 could be traced to infection at the time of this thaw. This, however, seems hardly likely, since a period of incubation so much shorter than the average would hardly have occurred in the maximum number of cases, and it would naturally be anticipated that the effect of this thaw would manifest itself especially about February 11-14, a time when the epidemic was plainly relaxing its hold (Table 2). The rather insidious beginnings of the outbreak, followed by a slow rise to a period of maximum infection and its final tardy and reluctant dying out, are not facts that betray the existence of any definite relation between any particular January thaw and the infection, although it seems only fair to suppose that such thaws may have served, from time to time, to accentuate the pollution.

MANAGEMENT OF THE EPIDEMIC.

Both town and university authorities have been subjected to unsparing criticism in various quarters for the overcrowding of the city hospital and the University Infirmary, and for the general management of the epidemic conditions. With respect to the overcrowding, such criticism has, perhaps, not been wholly just. There is no doubt that both hospital and infirmary have been greatly overtaxed almost from the beginning of the epidemic, but it is difficult to see how this could have been altogether avoided. The proportion of cases to the population has been very high, and both Ithaca and the university are to be congratulated that the facilities for caring for the patients were as ample as was the case. Few small towns and few universities are adequately provided with hospital accommodations for such an extraordinary emergency. The authorities of New York or Chicago would assuredly find themselves beset with many difficulties if they were suddenly called on to face the necessity of caring for 100,000 typhoid patients, and yet the proportion of cases to population in Ithaca was probably at least as large as this. The University Infirmary and its management, in particular, have received a great deal of sharp criticism, and it seems to be nowhere questioned that during the height of the epi-

* See p. 783, issue of March 21.

demic the conditions in that institution were more like those of war times than of ideal hospital practice. Unavoidable overcrowding was, of course, present, and one is told that there was much of the confusion that has sometimes accompanied great military emergencies. High praise is due the physicians of Ithaca, who, under such adverse circumstances, must have been severely overtaxed. With less than 30 physicians in the town and with sometimes over 400 typhoid patients added to their usual work, the conditions of the work can be understood. The highest appreciation of the efforts of the physicians was everywhere expressed. Whatever may have been their opinion as to the nature of the epidemic in its beginnings, there is no reason to believe that individual disinfection and prophylaxis were neglected, and, as already said, many of them showed themselves fully alive to the situation from the very first.

A particularly fortunate element was introduced into the situation by the arrival of Dr. George A. Soper of New York, representing the New York State Board of Health. The situation was one eminently demanding energy and great judgment. Dr. Soper won from the outset the confidence of all factions and immediately infused a spirit of system and hopefulness into the whole city. A particularly active campaign has been waged under his direction against the possibilities of secondary infection, and if the reforms suggested and initiated by him are carried into effect, Ithaca should be the cleanest and most ideally hygienic town in the state of New York. Only the highest praise can be awarded to the character of the methods, both physical and tactical, employed in this work. It is certainly one of the hopeful signs of the times that a man of practical experience and energy, combined with scientific knowledge, should be placed in a position of authority.

SECONDARY INFECTION.

The presence in Ithaca of the enormous number of typhoid bacilli generated in the bodies of 700-800 patients caused much concern among those conversant with the methods of spread of typhoid fever. The well-known dangers of secondary infection, a term generally applied to direct transfer of the specific bacilli from one individual to another through carelessness in disinfecting the discharges, were undoubtedly very great. The peril of further spread of the disease by this means was early appreciated, and a warfare against filth of every description was waged, and the discharges of typhoid patients were rigorously taken care of. Owing to energetic and efficient methods, the opportunities for secondary infection have been greatly diminished, and the aftermath of such cases will probably be much smaller in Ithaca than in most typhoid epidemics.

As to the part that has been played by secondary infection in originating cases of typhoid during the course of the epidemic, opinion is at variance. The fact that many cases developed among the members of one household or among the students in the same fraternity house or boarding house, together with the fact that in some cases a definite interval elapsed between the infection of different individuals has seemed to some to indicate that secondary infection has been of rather frequent occurrence. On the other hand, it is pointed out that the large number of individuals residing in a single boarding house lessens, somewhat, the value of the evidence derived from the appearance of many cases at the same house number, and it is also noted that the interval elapsing between the successive cases has been almost invariably less than the average period of incubation for typhoid fever. There can be no question that in this, as in all extensive outbreaks of typhoid fever, secondary infection has played a part, but there does not seem any reason for assigning it other than a strictly subordinate rôle. Cases of this character, however, would undoubtedly have been more numerous in the later stages of the epidemic but for the methods of prevention already alluded to.

THE OUTLOOK FOR A PURE WATER SUPPLY IN ITHACA.

Public opinion in Ithaca has become thoroughly aroused, and town and university authorities have been working with notable zeal to obtain a pure water supply. The revulsion of feeling over the use of surface water has led to an enthusiastic attempt to obtain a supply from artesian wells. A citizens' committee has taken up this matter with great vigor, and under their direction wells are now being drilled at different points in the valley, with the aim of securing an exceptionally pure and abundant supply. It is said, however, that competent engineers who have examined the locality are unable to secure any evidence that a supply satisfactory in quantity and quality can be derived from this source. Experiments are now in progress designed to determine this point, and, since there exists an overwhelming sentiment among the inhabitants of Ithaca in favor of deep well water and against surface water, the question is likely to be probed to the bottom.

At the same time that wells are being drilled in the valley a plan for filtering the water of Six Mile Creek is well under way. The water company has secured as consultant Mr. Allen Hazen, who has had large experience in matters of water purification and who is well known as the designer of the filtration plant now in successful operation at Albany, N. Y. Any measure carried out by his advice and under his supervision may be received with entire confidence by the people of Ithaca as a satisfactory solution of the problem. A slow sand filter, constructed from Mr. Hazen's designs, will unquestionably assure the city a supply of pure and wholesome water. It is expected that a thorough inspection of the watershed will go hand in hand with the preparations for filtration and that many improvements will be carried out along the banks of this stream. When this is effected and the filter plant is in operation under competent management, typhoid fever should practically disappear, and "Ithaca fever" be relegated to well-deserved oblivion.

The university authorities have determined to depend no longer on the supply of raw water from Fall Creek, and are installing a small mechanical filter which will be completed in a few weeks, and which is expected to ward off the possibilities of danger from this source. During the epidemic the university has supplied artesian well water for the drinking tanks in the campus buildings, and to its prompt action in this respect a considerable degree of immunity among the students during the later stages of the epidemic must be attributed.

Among the many persons in Ithaca to whom I am under obligations for friendly courtesies, I wish to express my especial indebtedness to Prof. V. A. Moore of Cornell University, who has generously placed at my disposal much information concerning the epidemic, and also to Dr. George A. Soper, who has kindly aided me in the course of my inquiries in many ways.

POSTSCRIPT.

The epidemic is now, March 30, to all appearances, at an end. Only fourteen new cases have been reported since March 11, and during the last week there have been only four. The revised and corrected tabulation of cases on the best information obtainable is as follows:

	Students.	Citizens.	Total.
Cases in Ithaca	124	660	784
Cases outside of Ithaca	106	22	128
Total	230	682	912

The corrected list of deaths to the present date is as follows:

January 23 to January 29	1
January 30 to February 5	4
February 6 to February 12	7
February 12 to February 19	12
February 20 to February 26	11
February 26 to March 5	10
March 6 to March 12	5
March 13 to March 19	5
March 20 to March 26	2
March 28	1
Total	58

Twenty-six of this number were students in Cornell University.

New Instruments.

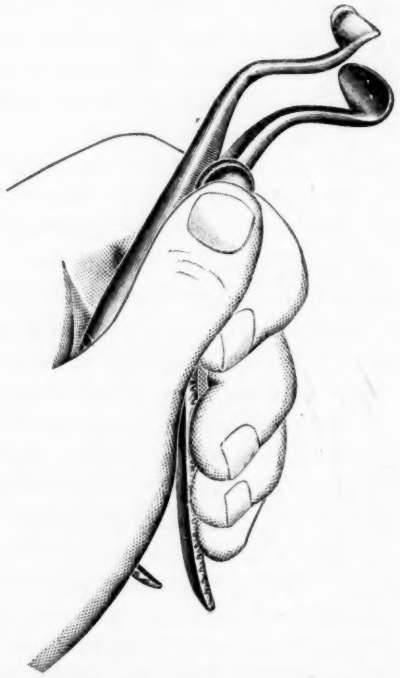
A NEW NASAL SPECULUM.

O. B. MONOSMITH, M.D.
LORAIN, OHIO.

Realizing that the bivalve speculum, opening transversely, did not meet all of the requirements of a nasal speculum, I was led to devise one for my own use that would overcome these difficulties. That I have succeeded, at least to my own satisfaction, is the excuse for presenting it to the profession. Its evolution extended over a period of about three years, during which time I made many modifications. The model, a cut of which I present, I have used about a year, and, in the majority of nares, it meets all of the requirements of an ideal speculum, both diagnostic and operative. It has merits that will appeal to the specialist as well as the general practitioner.

The instrument is to be held in the left hand of the operator for both nares, with the ball of the thumb on the screw head, thus giving a firm hold of the instrument without necessarily forcing the blades apart. By holding the instrument in this manner the blades open vertically. The advantage of this is that it raises the tip of the nose, giving a more advantageous angle of illumination and a better view of the nasal cavities. Another advantage is that the blades do not touch the mucous membrane. It will be seen that the upper blade is much shorter, and is placed somewhat back of the lower blade. It is also hooked slightly upward. This is, perhaps, the most important feature of the instrument. Being shorter and placed back of the lower blade, it conforms perfectly to the

anatomy of the nose, allowing both blades to enter the nose without leaving anything outside that is superfluous. The blades being attached to the shanks at right angles, prevent their being forced inward against the mucous membrane, and the upward curve of the upper blade prevents the speculum



slipping out at inopportune times, especially while operating. It may be noted, in passing, that with any bivalve speculum it is occasionally necessary to clip out the hair that is sometimes found in the anterior nares, in order to get a perfect view of the nasal cavities. A patent has been secured on the instrument, with the sole purpose of giving the control of the

manufacture to one instrument house that can be depended on to make it right, otherwise the merits of the instrument would be spoiled. As to the wisdom of this, I refer to an article in The Journal of the American Medical Association, vol. xxxvii, p. 1336, by Dr. Frank Allport, in which he writes: "As it is now, the moment he publishes an instrument all manufacturers have a right to make it, and, before long, the instrument on the market bearing the inventor's name may be so far removed from his original idea as to make him ashamed that he ever gave it to the profession."

THE THIERY CLAMP.

A SUBSTITUTE FOR EXTERNAL SUTURES.

ANDREW B. GLONINGER, M.D.
Surgeon to Good Samaritan Hospital.
LEBANON, PA.

I would like to give your readers the benefit of an idea that I picked up in Paris last summer at Professor Thiery's clinic. It is a little clamp, invented by Thiery to take the place of superficial sutures, which saves time in closing incisions after operations and prevents troublesome stitch abscesses.

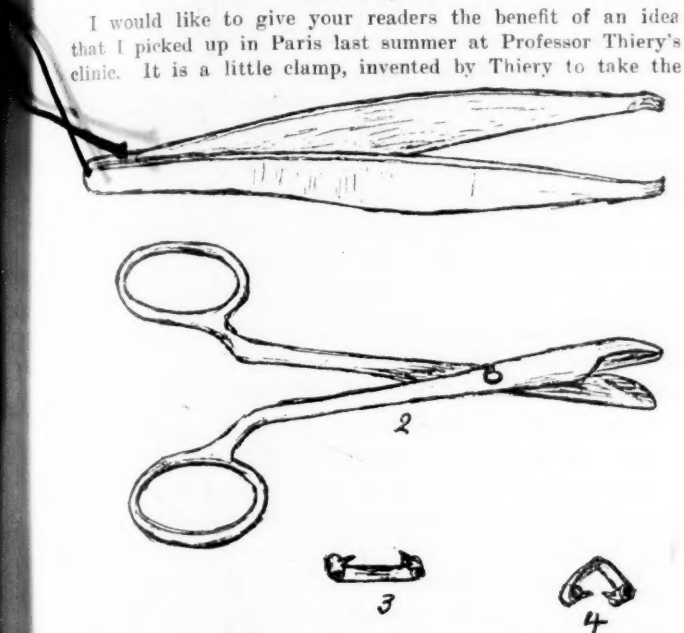


Fig. 1.—1. Forceps for applying clamps. 2. Forceps for removing clamps. 3. Clamp before application. 4. Position of clamp when in use.

The clamp itself is a narrow strip of soft non-corrosive metal 1¼ cm. in length, the ends curled and armed with little spurs.

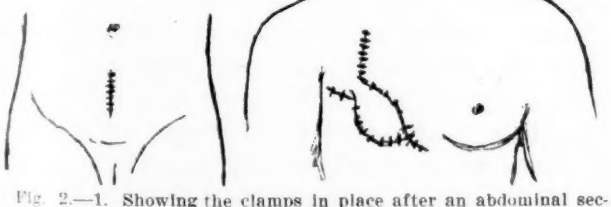


Fig. 2.—1. Showing the clamps in place after an abdominal section. 2. Showing the clamps holding a flap in place, reinforced by silkworm-gut suture at points where tension is greatest.

The two skin surfaces to be united are held in apposition between thumb and forefinger and the clamp, held in the grasp of a heavy claw-tipped dressing forceps, is pressed lightly against the adapted edges and pinched on with slight pressure. The little instrument bends easily, and the points enter the skin, holding the edges firmly together. They should be removed on the fourth day. For this an ordinary small hemostatic forceps will do, but the forceps specially designed for the purpose has a prominence on one jaw and a depression in the other; the grooved jaw is slipped under the clamp, and when the other is closed on it it bends back readily into its original shape with very little annoyance to the patient, leaving only a small cicatrix along the line of incision.

The outfit, including the two pairs of forceps and 500 clamps, cost me 20 francs in Paris. They can be used in all sorts of incised wounds where the tension is not great.

In abdominal operations they are the ideal suture. In fifteen sections I had complete union in four days in all but one, in which I had used some deep sutures on account of an unusually thick layer of fat. Following an amputation of the breast, I use two or three silkworm-gut sutures where there is tension and finish with clamps. I have had good results in closing incisions after phlebotomy for transfusion or for the ligation of varicose veins, and I tried them in two cases of amputation of the leg, but the grasp did not seem to be strong enough to hold the flap, and the result was not very satisfactory. They are specially well adapted for incisions of face, scalp and neck on account of the small cicatrix.

The misconstruction of the Code of Ethics which enjoins physicians against the methods of advertising like the quacks, i. e., by offering to give public advice to the poor gratis and by private cards or public handbills proclaiming one's skill to cure special diseases, has deterred capable physicians from imparting the kind of information they ought to impart on all proper occasions to the public. Up to date the public has obtained most of its knowledge indirectly from published accounts of epidemics, etc., and what health boards are doing and from occasional newspaper extracts from medical society proceedings selected on the judgment of non-professional and of inexpert newspaper reporters and from the alarming, overdrawn and often perverted statements made in quack advertisements. Often the first and only knowledge of what the medical profession is doing gets to the public through the last-named mercenary channels, who often pay tribute to the great work of the medical profession by indirect reference to the merits of its dead masters and by naming their quack establishments and more or less fake remedies after our great names. For we know, though the public does not, how many of the patent medicine men of our time have been simply drug store clerks or bottle washers or porters sometimes in physicians' offices, evoluted and transformed into patent medicine proprietors and kings of gullibility and Napoleons of fake finance founded on humbug—folly in matters medical and fake healing with the people, because we who have the light to shed give it not, but leave the popular medical world in darkness.—"Alienist and Neurologist."

The proportion of accidents and disease is brought out by an analysis of a recent census report made by the "Insurance Press," from which we learn that deaths due to accidents and injuries were highest among those whose mothers were born in Italy (119.5 per 100,000 of white population); lowest among those whose mothers were born in the United States (62.7). The death rate due to accidents and injuries is highest among persons 45 years of age and over. The average age at death from accidents is about 33.5. The proportions of death from accidents and injuries were greatest in the Cordilleran regions, the Pacific coast region and the Western plains; they are least in the North Atlantic coast region, the Middle Atlantic coast region and the Northeastern hills and plateaus. The warmer months show a larger proportion of fatal accidents than the cooler months. A person is more liable to meet death by accidental injuries than by any other single cause, except tuberculosis, pneumonia or heart disease. One is twice as liable to die from accident as from old age Typhoid fever, cancer, apoplexy, inflammation of the brain and meningitis, paralysis, diphtheria, diseases of the stomach, liver and brain, all these are slight menaces to life compared with the accident hazard If, as seems not unreasonable, a person is liable to die of any disabling accident that happens to him, what is to be said concerning the 11,000,000 accidents that happen every year. It seems to be true that a person is 100 times more liable to "catch" an accident than a fatal case of tuberculosis or pneumonia, and about 1,000 times more liable to "catch" an accident that a fatal case of liver disease.—"Amer. Medicine."

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INVESTMENTS FOR PHYSICIANS.

It is a matter of common remark among bankers and business men that physicians, more than members of any other profession, unless it be the clergy, are prone to make unwise investments of their savings. Medical men, it is true, are among the most far-seeing of individuals as far as the judgment of the character of their fellow-man is concerned; in general, they are noted for the common sense they display in the ordinary dealings of life. Too often, however, the sense of proportion seems to abandon them when it comes to matters relating to their financial welfare. The reason is largely, in our opinion, to be found in the widespread misunderstanding which exists among members of the profession regarding the fundamental principles underlying investments. How often in moving among medical men do we hear comments on "investments" in mining stocks, in oil wells, in rubber plantations or in industrial companies of various types. It is no unusual occurrence to be recommended by a friendly-disposed fellow practitioner to remove our accumulated little surplus from the savings bank and to buy ignis fatuus oil stock that is paying 12 per cent. dividends, or to sell our Chicago & Northwestern railway bonds and purchase Guatemala rubber and coffee stock at 50 cents per share because it is announced that the price will be advanced to 75 cents next month. The promoters of these will-o'-the-wisp concerns are only too well aware of the ease with which large numbers of medical men can be induced to venture in them; that they make good use of medical directories the daily mail of every medical man in the country attests.

It is doubtless to the credit of the majority of medical men that they are ignorant of the details connected with the selling of stock and bonds, that they know nothing of "puts" and "calls," and that the "short interest" and "stop-lóss orders" are terms which are mysteries to them. A man to be well versed in all the minutiæ of Wall street or La Salle street should give his whole time to the occupation and he will be fortunate then if he learns how to trade with profit. The physician who is to be a success in his profession and an honor to it, must give as much time and thought to that profession as old John Graham advised his son to give to pork. If he attempts to speculate in stocks and to practice medicine at the same time he may not be the most closely-shorn of the "lambs" in the street, but he will almost certainly deteriorate as a physician in the homes of his patients.

It is important to distinguish between "investment of savings" and "investment for large profits." In the latter instance over-ambition is likely to lead to indulgence in semi-speculative investments or to the yielding to pure speculation in so-called securities which are really nothing more nor less than gambling counters.

If Simeon Teluya of the Province of Moncostenango in Guatemala were to write to a thousand physicians and ask each one of them to lend him a hundred dollars, it is very improbable that he would receive favorable answers to his request; at any rate, before loaning the $100 to a man unknown to him and living so far away, inquiry would first be made as to the reliability of the man and the security of such a loan. But let Simeon Teluya stake out a few acres of Gautemala highlands or marsh, and, with the help of an enterprising American promoter who has a couple of hundred dollars with which to begin a new scheme, organize a company with $3,000,000 capital, advertise broadcast that rubber trees which have been planted are rapidly developing and that meanwhile the yield of coffee will speedily make dividends possible, send printed prospectuses to physicians stating that this month is the last opportunity to secure "treasury stock," and that next month the price of each share will be doubled, and it is surprising how many "conservative" men, without investigating in the slightest way Simeon or his plantation, will mail their checks for the stock.

Now there can be no doubt that some rubber plantations are exceedingly profitable and that there have been mines and oil wells which have turned small investments into great fortunes. Many of the ventures exploited represent opportunities of actual value; more of them have an honest purpose behind them, but ultimately prove unprofitable, but those who have watched the course of such concerns most closely tell us that a "large proportion of such offerings afford little or no return to the public who risk their money in the scheme."

Safety of the principal is of much greater importance than large dividends or a high rate of interest. Rather than run any large risk it is better to be satisfied with the small rate of income which pertains to the so-called "widows' and orphans' investments," such as are provided by savings banks, government and conservative municipal bonds, endowment insurance in first-class companies, or first mortgages on real estate worth twice the face of the mortgage, and which is producing income considerably in excess of the interest on the mortgage and is owned by some one who has other property than that on which the mortgage is held.

Certain bonds and stocks can be purchased with safety; others are risky. One of the most important principles which should be grasped is this: It is never wise to invest in securities of which one can not have full

knowledge. This is why it is better to invest in the securities of local companies which serve essential local needs, like light, water and transportation; for the physician if he invests in his own town or city, ought to be better able to make sure whether or not the companies whose bonds he purchases are honestly and economically managed, than if he buys the bonds of companies operating in distant cities. He should study the company's reports, be sure that he understands what every item means, keep in close touch with the officers thereof and know as much as possible of the nature of the business. The advantages of seeking all one's business profits within the range of his own immediate and more or less expert observations can scarcely be over-estimated. The securities of companies, and especially of industrial concerns, which avoid publicity, and of which no adequate account of resources and liabilities, of relation of fixed charges to net earnings, and of relation of dividend distributions to surplus earnings can be obtained should be shunned as assiduously as the substitution of morphin for quinin.

A second fundamental verity with regard to investments is to be found in the fact that "the return on a security always indicates the measure of the risk." An examination of the yield of different classes of bonds will show that government bonds return about 2 per cent.; high-class municipal bonds about 3 per cent., and railway bonds of the best class from 3.25 to 4.5 per cent. If on inquiry a bond or stock be found to be selling at a price which permits of a net yield of over 5 per cent. it is either because there is a limited market for the security or the investing public doubts the stability of the return. Occasionally there is to be picked up a really safe security which yields more than 5 per cent. net return, but this is rare, and there is always some special reason to account for its cheapness.

A third law of investments is this: A large proportion of new business undertakings fail; it is therefore rarely wise to put money into any new enterprise. Such a disposition of money must be looked on as speculation rather than as an investment. It is much safer to limit one's purchases to the bonds, for example, of railways and corporations, which, through a series of years (including a period of hard times), have demonstrated their ability to pay all their fixed charges with 60 per cent. or less of their net earnings. If the stocks of first-class railroads are ever purchased (and they are, of course, always much less safe than the bonds of the same roads) the investor should first make sure of the margin of safety of surplus earnings over dividends; if, after all fixed charges have been paid, more than 60 per cent. of the surplus earnings have been distributed as dividends at any time during the preceding five or ten years, the stock should not be bought as a prime investment.

Fourthly, a physician should never intrust money for investment to any person or company who offers to place great skill in reading the markets at the disposal of the investor in exchange for a practical part of the large profits promised. Discretionary pools, trading syndicates and all such "get-rich-quick" concerns are to be avoided as one would the arch enemy. Promises of 10 per cent. return or more monthly are to be regarded as opportunities for falling into a snare, and the snare is very often a tangle which ends in disgrace. If discretionary pools had that clairvoyant knowledge of the immediate movements of the market which would permit them to make the money for their clients that they claim, they would be in the market entirely on their own account, and not be wasting time working on small commissions for other people. Fortunately the postal authorities are ridding the country of the worst of these pests as fast as their attention is called to them.

In conclusion, if medical men would learn to follow the advice of a sage counselor and "lend no money as a favor to anyone unless you are willing and able, if need be, to give the money outright; to have no business dealings with your relatives in which business and sentiment are mixed up; sign no notes and assume no financial responsibilities for other people . . . and never put a large part of your savings into any one investment," there would be many fewer heart burnings in old age and many happier physicians' families than there are to-day.

THE NOMENCLATURE OF CYTOLYSIS AND BACTERIOLYSIS.

The terms intermediary body, complement, etc., have appeared repeatedly in these columns in discussing some of the phenomena of the reactions of immunity. Although the functions of these bodies, which are made clear by certain observed phenomena rather than through the isolation of tangible substances, are now fairly well understood by scientific workers and general readers, there is among the contributors of various countries a reprehensible lack of unanimity in the terminology employed. This must needs lead to a degree of confusion among medical men in general in their attempts to grasp a problem which, primarily, is not simple.

In view of this, a brief consideration of the nomenclature of immunity seems appropriate. It is now generally understood that so-called cytolytic and bacteriolytic serum contains two substances, one thermostabile, and one thermolabile, which is destroyed by about 56 C. for thirty minutes. The thermostabile substance combines with the cell (animal or bacterial) for which it is specific, gaining entrance through the theoretical cell "receptors," of which every cell has a great variety. After this union has taken place, something happens by means of which the thermolabile substance in some way can enter or be joined to the cell and produce its solution. Without the first step the second can not occur, and they must occur in this order. We have, then, to do with three different "bodies" in the process of cytolysis: the cell with its receptor, the thermostabile body (intermediary body or amboceptor), and the thermolabile body (complement).

The amboceptor or intermediary body has a certain amount of complexity in that it has two different affinities, one for the cell and one for the complement. It has been supposed that these affinities reside in definite molecular groups of the amboceptor, and, in accordance with their function, they are called binding groups (haptophorous groups or simply haptophores). The group with affinity for the cell is the cytophilous, for the complement the complementophilous group of haptophores. Now the amboceptor, under certain circumstances, may undergo a kind of degeneration, in that it may lose its binding group on the one hand for the cell, or on the other for the complement. The degenerated body is an *amboceptoid* (Wechsberg).

The complement also is not simple in its constitution. It is the active or digesting substance of an immune serum, the amboceptor being an intermediary body. It has been shown that the complement degenerates spontaneously with ease, losing its power to cause lysis, but retaining the power to combine with the complementophilous group of the amboceptor. In this way the amboceptors are used up, and active complements which may happen to be present can not come into play. The degenerated complement is called *complementoid.* Although it is inactive in this form, when injected into animals it is able to give rise to the formation of *anticomplement,* because it retains its haptophorous group. That part of the complement which digests the cell, and is so sensitive, is the toxophorous group, or the toxophore.

Various sera are designated thus: bacteriolysin, hemolysin, leucolysin, spermolysin, endotheliolysin, and so on through the whole list of available cells. The amboceptors are the specific elements in these sera, and while some are present normally they are produced to an enormous degree in immunization; complements seem to be less specific and are not increased in immunization.

The relationship of animal species has made necessary another group of names. If the serum or fluids of an animal will dissolve its own cells the phenomenon is called autolysis; if a member of a species can naturally, or through immunization, cause lysis of cells of another member of the same species, isolysis is spoken of; and heterolysis, if the serum dissolves the cells of an animal belonging to a different species. The respective amboceptors are autolysin, isolysin, and heterolysin.

Agglutinins, precipitins and coagulins are additional bodies which are produced by injecting animals with different substances. They are simple compared with the amboceptors, and are called uniceptors, having a haptophorous group and supposedly a toxophorous (agglutinophorous); thus they have a structure similar to that of complement and also of toxin, which latter can not be discussed now. Certain bacteria produce in bouillon cultures substances which dissolve or agglutinate animal cells, giving rise to the terms bacterio-hemagglutinin, etc., in distinction to serum-agglutinins. Bacteria may also form other substances of this kind, for example, the staphylococcus forms a staphylohemolysin and a staphyloleucolysin (leucocidin). There is also a specific precipitin which is produced in the serum of an animal immunized with certain micro-organisms; bringing such a serum in contact with the fresh filtrate of bouillon cultures of the microbe in question gives rise to a precipitate (Kraus).

By way of summary, one may say that the products of immunization are antitoxins, antiferments (antirennet, etc.), coagulins and precipitins, agglutinins, and cytolysins or cytotoxins; of these the cytolysins require the united action of two separable substances, amboceptor and complement. Of these bodies, the following allow the production of special antibodies: coagulin, precipitin, agglutinin and cytolysin. An anticytolytic action may be due to the presence either of an antiamboceptor or an anticomplement.

This is surely a complex mass of names and the object of these remarks is solely to call them to mind, but the early confusion disappears for the most part when the principles have been mastered. However, various synonyms have continuously crept into literature, particularly in dealing with the thermostabile body of cytolytic serum. "Antikörper" (antibody), "Immunkörper" (immune body), "Zwischenkörper" (intermediary body), and "Amboceptor" have been applied successively to it by German writers. Bordet and the French school generally use "substance sensibilisatrice" (the substance which sensitizes). However, Metschnikoff introduced "philocytase," then later concluded that "fixateur" represented the function of the body better. We can not conceive what subtle properties the amboceptor may possess by virtue of which London's "desmon" (Gr., a bond) may be better suited than Mueller's "copula" (Lat., a bond). Let us hope we have seen the last in Gruber's "Præparator."

Nor has the complement been spared. Buchner's "alexine" (Gr., to ward off) formerly represented the whole bactericidal property of the blood before specific cytolysis was understood. The French, some Russians and Germans now use it as Ehrlich has used complement, since he abandoned "addiment." Metschnikoff has invented "cytase" out of respect to the supposed cellular (phagocytic) origin of the substance.

In view of the prevailing and growing custom in America, it seems that we are destined to use amboceptor or intermediary body and complement. Amboceptor seems preferable to intermediary body, because the anti- is so conveniently prefixed and the -oid added. As to the state of affairs in Europe, it is to be hoped that the minority will be willing in the course of time to render back their carefully culled but unnecessary names to their source—the lexicon.

LESSONS OF THE EPIDEMIC AT ITHACA.

If the deplorable occurrences at Ithaca are to serve any useful purpose in the economy of nature, it must be to point a moral rather than to adorn a tale. If we

draw lessons for our own behoof from the calamity of other people, it is not with the intent to increase in any way the burden of the afflicted town, but simply with the desire that other municipalities may heed while there is yet time the plainest of the lessons that are taught by the experiences of Ithaca.

The outbreak has already had a remarkable effect in stimulating the authorities of many other towns to inspect and guard more closely their own supplies of surface water. A searching of hearts among the officials in charge of water works is going on all over the country. Clippings come to us all the way from Connecticut to California, showing that municipal water supplies are being looked into as never before. In the city of Buffalo, for example, an active discussion is being carried on at the present moment as to the relative desirability of constructing a filtration plant or pushing the water intake farther into the lake. Rochester, Auburn and many other places in the state of New York are considering measures for the betterment of their supplies. The authorities of several of the large universities are fully awakened, it is said, to their responsibilities, and are increasing the safeguards which are already in some instances thrown about the water supply of their respective student bodies. The wide publicity given by the Ithaca epidemic to the danger that always lurks in an unguarded surface water in a populous district can have no other than a beneficial effect. The constant menace from an unprotected surface water is one of the most obvious of the lessons to be drawn from the Ithaca outbreak.

In some quarters much stress has been laid on the circumstance that the water supply of Ithaca was in the hands of a private corporation, and more or less cogent arguments for municipal ownership have been deduced from this fact. The reversion of opinion on this point at Ithaca is worthy of note: Feb. 27, 1902, the town voted against municipal ownership of the water works by a vote of 718 to 583; while at a special election, held March 2, 1903, the vote stood 1,335 for and only 30 against. There is undoubtedly much to be said in favor of the municipal ownership of public water supplies, and whatever may be one's opinion as to the desirability of municipal ownership of public utilities in general, it must be admitted that the arguments for the ownership of water supply are far stronger than in the case of transportation or illumination facilities. We can not help believing, however, that the introduction of the question of municipal ownership into the present discussion really obscures the true issue. It does not seem to be a question of municipal ownership *per se* that is here in question. Many cities that have owned their water supply for years find themselves in a much more helpless position than Ithaca in respect to controlling the general quality of their supply. It is certainly not true that municipal ownership of water works insures a good supply, or that private ownership necessitates a bad one.

The plain lesson here, and the lesson that, for our part, we should emphasize most strongly, is that both municipalities and private water companies must learn to resort habitually to expert opinion and to accept it when secured. Perhaps the most depressing feature about the management of our cities is the continued failure of the authorities to avail themselves of competent opinion and advice. The good old American custom of assuming that any man's opinion about any matter is as good as any other's, is one that can hardly be carried over into the twentieth century without considerable danger to our national prestige. In matters involving life and health, especially, there is no place for the amateur. City aldermen, college trustees, even physicians without special training in modern hygiene, must all give way eventually to the definitely trained and experienced expert, who can advise with knowledge as to the proper means of safeguarding a water supply or stamping out an epidemic. If those possessed of local authority in such matters would devote themselves to securing precise information concerning the men in whose judgment confidence can be placed, rather than in endeavoring to form for themselves in a few days or weeks an opinion about questions for the proper consideration of which an elaborate and special training is required, the result of their deliberations would be less often either grotesque or disastrous. Reliance on those who know, rather than on those who pretend to know or think they know, is the lesson to be most seriously taken to heart by municipal authorities at the present moment. The requisite information and engineering skill for all public works involving the protection of the public health can easily be obtained, and no fancied exigencies of local or national politics should be allowed to block the way when the lives of human beings are at stake.

A POSSIBLE LEGAL DISTINCTION.

A new question may arise for our technical judges to decide. It is reported that the amended law of North Carolina is so worded as to exempt those "who 'cure' the sick or afflicted by spiritual means alone." It apparently makes no provision for those who only "treat" the sick by such means. As a lay contemporary pertinently asks: "Does it apply in case the patient dies?" The Eddyite or mental healer might find himself still under the law if he had bad luck with his case. It is a little remarkable that the persons who were influential enough to obtain the exemption as stated did not see the possibility of the embarrassing complication. We await the decision of the North Carolina courts with trepidation.

TOTAL ABSTINENCE AMONG BARTENDERS.

A total abstinence society of bartenders has been formed in Chicago, its objects, as set forth, being to promote temperate habits among bartenders, to set a good example to the customers, to protect the cash register and stock, and to elevate the calling. Bartenders are not considered good risks in insurance companies on account of the dangers of their business, there-

fore the promotion of temperate habits among them has a very sensible sort of egoistic motive. To set a good example to the customers, however, by being total abstainers as a business proposition is one which we should think would not be encouraged by the bartenders' employers. It is hardly likely that they would want their customers to become total abstainers. The elevation of the calling is, of course, another question. Whether a calling which discredits itself by the conduct of its own followers can be specially elevated in this way may be a matter of some doubt.

IS SALICYLIC ACID AS A FOOD PRESERVATIVE HARMFUL?

Elsewhere[1] in THE JOURNAL appears an abstract of an article by Drs. MacAlister and Bradshaw of Liverpool, on the effects of salicylic acid as a food preservative. Their conclusions are positive and, as they say, they speak with a due sense of responsibility. According to their views, salicylic acid, in the ways in which it is used in the preparation of food products, is not only not harmful, but is a preservative to health, inasmuch as the process of decomposition which it prevents would be far more dangerous. Their argument seems to be fairly well taken and their experiments reasonably conclusive. They show by their experiments that digestion *in vitro* is scarcely perceptibly hindered by saturated solutions of salicylic acid and that the effects of small quantities on the living subjects are practically negligible, according to their own personal experiences and observation and those of Kolbe, whom they quote. The question of food preservatives is one that is of general interest and the communication, therefore, has a certain specific value. One of their arguments is that a large number of popular non-alcoholic beverages are possible with the use of salicylic acid, and are useful substitutes for the stronger alcoholic drinks. The use of salicylic acid, therefore, is in direct line with the temperance cause. On this point they lay much stress. There is a certain use of salicylic acid to which this argument does not apply, and that is in certain drinks in which a decided percentage of alcohol is used. If the amount of salicylic acid thus taken either in these "temperance drinks" or in the alcoholic ones is not harmful, then it is probably not harmful in food in the way it is used, especially the small quantities in condiments, such as catsup, etc., in which it is principally employed. What is said of the harmlessness of salicylic acid is probably equally true of several other antiseptics used as food preservatives. Dr. Tucker's paper, abstracted in a very recent issue of THE JOURNAL,[2] while conservative as to their use, deprecates any extreme legislation on articles which are not generally conceded to be harmful. It would not be a bad idea, however, as he suggests, to require manufacturers of all substances containing these preservatives to have the proportion used stated on the labels.

1. See page 942 of this issue, abstract 11.
2. THE JOURNAL, March 28, p. 875.

Cocoanut As a Vermifuge.—A diet or a free ingestion of cocoanuts is said, in many of our exchanges, to destroy tape worms. The item is quoted without credit or authority, and the question naturally arises whether the simple remedy is efficient and who has proved it.

Medical News.

DISTRICT OF COLUMBIA.

Georgetown University Hospital Addition.—Ground has been broken for the extension to the Georgetown University Hospital building. The addition will be 100 by 35 feet.

Addition to Garfield Hospital.—Plans are being prepared for the $100,000 addition to Garfield Memorial Hospital, which is to be four stories high and of brick and stone construction.

Law Against Spitting.—After a public hearing, the commissioners have adopted a health regulation prohibiting spitting on the sidewalks. The law already in force prohibits spitting in street cars, public vehicles and public places under control of the district.

Health of the District.—The report of the health officer for the week ended March 21 shows the total number of deaths to have been 111, of which 73 were white and 38 colored; 78 births were reported, of which 50 were white and 28 colored. At the close of the week there were under treatment 86 cases of typhoid fever, 10 of scarlet fever, 8 of diphtheria, and 7 of smallpox.

Medical Inspectors for Schools.—The district appropriation act approved March 3, provides for twelve medical inspectors of public schools, four of whom shall be of the colored race, at $500 each, with the proviso "that said inspectors shall be appointed by the commissioners only after competitive examination, and shall have had at least five years' experience in the practice of medicine in the District of Columbia."

ILLINOIS.

Smallpox at Greenfield.—Dr. Archie W. Barker, Springfield, who was sent by the State Board of Health to Greenfield to investigate the smallpox conditions there, reports that there are twelve cases in the village.

State Society Incorporated.—The Illinois State Medical Society was licensed to incorporate by the Secretary of State, March 24.—The incorporation is not for profit, and the object is to promote the science of medicine. The principal office is to be in Springfield. The incorporators are Drs. David W. Graham, Chicago; Carl E. Black, Jacksonville and Otho B. Will, Peoria.

Chicago.

Practiced Without a License.—Leon H. Dombro, a Russian, was fined $100 and costs, March 23, for practicing medicine without a license.

Generous Pledges.—Dr. Frank Billings announces that one individual has offered to give $100,000 or a large tract of land to the Children's Hospital Society, and that another person has pledged $75,000.

Personal.—Dr. and Mrs. George de Tarnowsky have returned from their trip abroad.——Dr. Horace G. Anderson, who has been ill a long time, has been placed in a private sanatorium in Peoria.——Dr. Robert F. Bennett has been adjudged insane and sent to the State Hospital, Elgin.

Bone and Not Lung Tuberculosis.—On account of sensational statements in the daily press regarding the prevalence of tuberculosis in the School for Crippled Children, where it was alleged the majority of the pupils were afflicted with consumption, the health commissioner ordered an investigation, which demonstrated, as might have been expected, that a large proportion of the crippled children were suffering or had suffered from tuberculosis of bones or joints.

The City's Deaths.—The month is barely saving its record as one of declining mortality. The 563 deaths recorded during the week represent an annual rate of 15.58 per 1,000, precisely the same as for the corresponding week of last year, when the death rate was about normal for the season, and 7.9 per cent. lower than that of the preceding week. Pneumonia deaths still continue excessive—100 per cent. greater than those from consumption and 40 per cent. more than last year. The deaths from pneumonia numbered 121; from consumption, 60; from heart disease, 54; from Bright's disease, 33, and from violence, 28.

INDIANA.

Anatomical Board Organizes.—The State Anatomical Board, created by the recent legislature to have charge of the furnishing of corpses to colleges for dissection purposes, held its first meeting in Indianapolis, March 20. Dr. John H. Forrest, Marion, ex-officio chairman of the new board by reason of his position as president of the State Board of Health, presided. The board organized by selecting the following additional

officers: Dr. John H. Oliver, treasurer; Dr. E. F. Sommer, secretary; Drs. F. M. Wright, Collins T. Bedford and T. E. Courtney, trustees.

Recent **Sanitary Legislation.**—The sixty-third general assembly, which adjourned March 7, passed four bills which were presented by the State Board of Health. The first was an increased appropriation for health work. Six thousand dollars per annum, aside from the salary of the secretary and chief clerk, had been heretofore appropriated. Now ten thousand dollars is given. This makes an increase of four thousand dollars available Nov. 1, 1903. The state board promises to do good work with this money. The second bill, which became a law, and which the board has twice before recommended, is for the purpose of providing ventilation for the state house. The third forward step gained was the passage of the quarantine law. This law leaves very little more to be desired in the way of power given to boards of health for the suppression of infectious diseases. It first provides that physicians and householders shall immediately report such diseases as are required to be reported in the rules of the State Board of Health. It then becomes the duty of the health officer in whose jurisdiction the disease is found to immediately establish a quarantine "so as effectually to isolate the case or cases and the family if necessary, in such manner and for such time as may be necessary to prevent transmission of the disease." The penalty for breaking quarantine or for physicians refusing or neglecting to "take such precautions as are directed in the rules of the State Board of Health" is a "fine of ten to fifty dollars, to which may be added imprisonment in the county jail not exceeding six months." The law requires that all infected persons and premises shall be disinfected at the proper time according to the rules of the state board. School children, "if infected with any communicable disease, or if they have been exposed to any communicable disease," shall not attend school or appear in public; and all school teachers "shall exclude from the schools all such children, unless a written permit to attend is given by the health officer having jurisdiction." Other important provisions are contained in the law.

IOWA.

Invoke the **Law.**—Dr. Edwin W. Haradon, Jesup, has been sued by Harry Baker of the same place for $3,000 damages for libel in the form of an information alleging the insanity of the plaintiff.——Dr. Edward S. Burroughs, Marshalltown, has been sued by a husband and wife for $6,500 damages; the wife alleging mistake in diagnosis and claiming $5,000, and the husband alleging nothing, but claiming $1,500.

Adulteration Causes Blindness and Death.—A correspondent sends the following extract from the "Waukon Standard," suggesting that the fatal result may have been due to lemon extract made with wood instead of grain alcohol:

Clarence Floyd, a printer and newspaper writer of Center Point, Iowa, died last week after a protracted period of heavy drinking. Lately he had been unable to purchase liquor, no one daring to sell it to him, but somehow he got hold of two dozen bottles of lemon extract. He drank all but three or four of these bottles and he went blind on the streets of Vinton. Then he grew violent and physicians were summoned. They could do nothing for him and he died in horrible agony.

KENTUCKY.

Jewish **Hospital for Louisville.**—Jewish individuals and societies of Louisville have already pledged $24,526 of the $30,000 required to establish a free non-sectarian Jewish hospital in that city.

Violated **Health Law.**—For going to church while suffering from smallpox, Henry Welch, a farmer of Fayette County, was indicted by the grand jury, March 18. This is the first case since the passage of the statute.

Commencement.—Louisville Medical College graduated a class of 53, March 24. General Basil Duke was the orator of the occasion; Dr. John D. Miller of Mississippi delivered the salutatory, and Dr. D. J. Maguire of Kentucky was valedictorian.

Prison for Physician.—Dr. Asa P. Taylor, Lexington, president of a defunct mutual deposit company, was sentenced to three years' imprisonment, March 27, for embezzlement. The offense lay in paying a dividend from the surplus fund of the company.

MARYLAND.

Clean **Bill of Health.**—Dr. Rohrer, who has been in charge of the smallpox hospital at Chestertown for the past month, released all the suspects and patients there on March 27, and Chestertown now has a clean bill of health.

Personal.—Dr. Washington G. Tuck has been reappointed postmaster at Annapolis.——Dr. William W. Golden has been chosen superintendent of the new Davis Memorial Hospital at Elkins, W. Va.——Dr. Henry W. McComas of Oakland has returned from a visit to Hot Springs, Ark. Dr. W. H. Ravenscroft of the same place, who has spent the greater part of the winter in Denver, has also returned.

Baltimore.

Mortality and Morbidity.—The mortality last week was 200, or 16.60 per annum per 1,000 for whites and 37.41 for colored. Pneumonia caused 33 deaths. Two new cases of smallpox were reported, both in negroes.

Damage Suits.—The suit against Dr. Pierre G. Dausch for $20,000 damages for death following operation, has been dismissed on an order of counsel for plaintiff.——A verdict for $100 damages has been obtained against Dr. Arthur D. Mansfield by a woman who claimed that the Doctor pushed her violently while attempting to collect a bill.

The Crim Estate.—The personal property of the late Dr. Crim has been appraised at $48,305. In this is included the large collection of antiques, hitherto mentioned as left in reversionary bequest to the University of Maryland. There are over 1,500 articles enumerated in the inventory, comprising all kinds of furniture and household effects, silverware, paintings, and engravings. The sale of the collection will commence in this city April 22.

Personal.—Dr. Howard A. Kelly will go abroad shortly, to be gone until August. He will attend the sessions of the International Medical Congress at Madrid and will deliver one of the four principal addresses, representing this country. His subject will be "The Passing of a Specialty." He will then go to Glasgow, where he will deliver an address before a medical society, and to Paris, where he will address the French Surgical Society. He will travel extensively through Europe before returning to America.——Dr. Alexander D. McConachie will also attend the Madrid Congress.——Dr. M. W. Glover, U. S. Marine-Hospital Service, who has been assigned as medical inspector to the U. S. Immigration Bureau at this port, arrived from New York March 23.

MASSACHUSETTS.

Homans Memorial.—A meeting memorial to the late Dr. John Homans was held in Sprague Hall, Boston, March 30. Addresses were made by Drs. Richardson, Cabot, Shattuck, Bradford, Edes, Warren and Harrington.

Corey Hill Hospital.—Dr. Joel E. Goldthwaite, Boston, has joined with twelve other Boston medical men and will erect on Corey Hill a fine hospital, to be called the Corey Hill Hospital. It will accommodate about thirty patients and be modern and complete in all its details.

Lowell Typhoid Traced.—The health department of Lowell has traced the typhoid fever which is prevalent there to the milk supplied by a Chelmsford milkman, whose hired man was ill with typhoid. The local authorities have interdicted the delivery of milk from this source in Lowell.

Brigham Hospital.—The new buildings of the Brigham Hospital are to cost more than $1,000,000, and the income will be about $150,000 annually. This will be administered by a board of twelve directors recently chosen by the corporation which is styled The New England Trust Company.

Massachusetts General Hospital Staff.—Drs. James C. White, William L. Richardson, and C. B. Porter, who recently resigned from the visiting staff of the Massachusetts General Hospital, have been appointed members of the consulting staff. Dr. James J. Minot has been appointed visiting pnysician.

Formalin and Bacteria.—The tests made by Dr. Hibbert Winslow Hills, bacteriologist of the Boston Board of Health, on the value of formalin injections to arrest bacterial activity in the body as advocated by Dr. Barrows, indicate that solutions to be efficient must be sufficiently strong to destroy tissues and hence are impracticable.

Unregistered Practitioner Sentenced.—Henry Beltman, who came to America from Germany only a year ago, was sentenced to three months in jail as he was unable to pay a fine of $100 assessed against him for practicing medicine without being registered according to law. He pleaded for leniency, claiming that he ignorantly infringed the law.

Ten Hours a Day Limit for Nurses.—A bill before the state legislative committee on labor provides that nurses and attendants in hospitals, asylums and sanatoriums shall not be

required to be on duty more than ten hours in the twenty-four, and that if emergency requires such service, corresponding time off during the ensuing week shall be allowed.

Bequests.—Arioch Wentworth, whose fortune is estimated at over seven millions, left $100,000 to the town of Dover, N. H., for a hospital to be called The Wentworth. The bulk of his estate is to be used in the establishment and maintenance of a great trades school.——The will of J. H. Center, Boston, leaves $54,000 to charities, prominent among which are the Massachusetts Homeopathic Hospital, Children's Hospital, House of the Good Samaritan, and the Massachusetts Charitable Eye and Ear Infirmary.

MICHIGAN.

From Murder to Manslaughter.—The charge of murder against Dr. Wallace E. Newark, Charlotte, on account of his implication in the death of Mrs. Harriet Wirtz, has been changed to manslaughter, and his bail reduced from $2,500 to $1,500.

To Muzzle Dogs.—The Michigan State Board of Health has issued a circular recommending that every local board of health immediately make and publish regulations ordering the muzzling of all dogs at large and the killing of all unmuzzled dogs found at large, and that provision be made for the prompt and effective execution of such regulations.

No Isolation Hospital.—At the session of the Detroit city council, March 28, the proposed appropriation of $75,000 for a city hospital for communicable diseases was cut out of the estimates for the year. Drs. Guy L. Kiefer, Johnston B. Kennedy and Charles G. Jennings argued for the hospital, and Dr. J. Henry Carstens opposed and prevailed.

University Treats Hydrophobia.—The Board of Regents of the University of Michigan, at a recent meeting, decided to provide Pasteur treatment for hydrophobia, and appropriated $2,500 for the purpose. Residents of Michigan will be treated free, while patients from other states will be charged what they would have to pay at a private institution. Dr. Thomas B. Cooley, a graduate of the medical department of 1895, will have charge of this work under the supervision of Dr. V. C. Vaughan, director of the hygienic laboratory.

MISSOURI.

Quigg Bill Defeated.—The bill to create four boards of examiners, one for each of four so-called schools of practice was defeated in the house.

Osteopathy Bill Passed.—Both houses of the legislature have passed the bill regulating the practice of osteopathy and providing therefor a state board of examiners, and the bill now requires only the governor's signature to become law.

New Blind Asylum.—The legislature has passed the bill authorizing the sale of the asylum for the blind property in St. Louis and the purchase of a new site. The bill carries an appropriation of $150,000. Under the provisions of the bill a commission of three will be appointed by the governor to take charge of the matter.

Commencements.—On March 24 Kansas City Medical College graduated a class of 24. Chancellor E. Benjamin Andrews of the University of Nebraska delivered the address to the class. ——Medico-Chirurgical College, Kansas City, awarded diplomas to a class of 20, March 19.——The graduating exercises of the University Medical College, Kansas City, were held March 26, when a class of 63 was graduated.

College Merger.—On May 1, 1903, St. Louis University assumes control of the Marion-Sims-Beaumont College of Medicine, which becomes the medical department of the university. St. Louis University founded the pioneer medical college of the Mississippi Valley in 1836; in 1855 its medical school became independent of the university. The revival of its medical school by the acquirement of the Marion-Sims-Beaumont College is a step in the development of the university, and of great importance for the progress of medical teaching in St. Louis.

NEW YORK.

Surgical Pavilion Opened.—The Cochran Surgical Pavilion, an annex to St. John's Riverside Hospital, Yonkers, provided at a cost of $55,000 by the late William Francis Cochran, was thrown open, March 21.

One-Fourth Consumptives.—In an argument before the legislative committee on ways and means by Dr. Julius B. Ransom, physician to the Clinton State Prison, Dannemora, he stated that one-fourth of the population of the prison is afflicted with tuberculosis.

Nursery and Child's Hospital Bill Unconstitutional.—A bill now before the legislature authorizing the sale of the property of the Nursery and Child's Hospital has been declared unconstitutional by Attorney-General Cunneen. The hospital holds the property under a perpetual lease from New York City, and in view of the encroachments necessitated by the proposed extension of the terminal facilities of the New York Central and Hudson River Railroad the managers of the hospital are anxious to sell the property and purchase another and more suitable site. The legal opinion says that the authorities of New York City might be empowered to effect the sale.

New York City.

Nurses' Home.—The Presbyterian Hospital is about to erect a magnificent six-story home for its nurses. The structure will be located in East Seventy-first Street, near the hospital, and is to cost $300,000.

In Memoriam.—The alumni of Charity Hospital, Brooklyn, at a special meeting held March 11, adopted resolutions of regard, regret and sympathy on the death of Dr. Earle Woolworth, who was an interne in the hospital in 1897.

Decision Favors Faith Healers.—The Appellate Division of the Supreme Court in Brooklyn has reversed the conviction of J. Luther Pierson of Valhalla, the charge being a failure to provide a physician for his adopted daughter. Judge Bartlett wrote the opinion, which was concurred in by Judges Hirschberg and Jenks. Presiding Judge Goodrich, in dissenting from this opinion, maintained that liberty of conscience should not justify practice inconsistent with the peace and safety of the state.

Tents for Tuberculous.—The president of the department of health has written a letter to the mayor regarding this subject, from which the following excerpts are taken:

During 1902 7,571 persons died of tuberculosis of the lungs in New York City, while 1,312 died of other forms of tuberculosis. In 1901 the deaths from pulmonary tuberculosis numbered 8,135. While the death-rate from tuberculosis was thus gratifyingly reduced in 1902, the disease remains the greatest single cause of deaths in this city. I believe that with an appropriation of $35,000, which amount will be formally requested by the board of health from the board of estimate and apportionment, I can erect a sanatorium on the tent and ducker plan, with accommodations for sixty patients and fifteen attendants, to be operated from May 1 to Dec. 31, 1903. If this camp should be put in operation and should prove to be successful, as I do not doubt it will, it will then be possible for the city of New York to enter on this method of tuberculosis prevention on a larger scale.

A tract of ninety acres in Orange County, N. Y., has been offered to this department free for a period of two years, and the acceptance of the offer entails no financial obligations on the city.

The extreme cheapness of the tent plan for the care of tuberculosis cases, as compared with the hospital plan, leads me to believe that if the work is taken up under the auspices of the New York City government it will be adopted by many other cities of the United States.

PENNSYLVANIA.

To Enlarge Hospital.—It is proposed to enlarge the Bryn Mawr Hospital and subscriptions are being secured for this purpose.

Smallpox on Steamer.—The British steamer "Riverdale," on its arrival at Delaware Breakwater, signaled that smallpox had broken out among the crew. The vessel was taken charge of at Reedy Island Quarantine.

Hospital for Allegheny.—Allegheny is soon to have a general hospital. The main building will be seven stories high, and there will be separate one-story buildings for contagious diseases and for a laboratory and autopsy room.

Hospital Bill Passed.—A bill passed by the legislature and recently signed by the governor gives municipalities the right to acquire property, either within or without their limits, on which to erect hospitals, or for the purpose of waterworks or for poor-farms.

Philadelphia.

Hospital Staff Change.—Dr. David D. Stewart has resigned as visiting physician to the Protestant Episcopal Hospital and Dr. Charles H. Weber has been appointed to the place.

Phototherapy at the Polyclinic.—The Polyclinic Hospital has established a phototherapeutic department and will treat without charge a limited number of appropriate and deserving cases.

Health Report.—The official health report for the week ended March 28 shows a decided decrease in the number of new cases of typhoid fever, there being only 154 new cases, as against 247 for the previous week. There was an unusual number of new cases of diphtheria and scarlet fever, 54 of the former and 94 of the latter. There were 31 new cases of smallpox. The general mortality was high.

To Raise **Standard.**—At the regular meeting of the Philadelphia County Medical Society, March 25, a resolution was adopted urging the passage by the legislature of the Ray bill, now before the senate. The bill provides for higher preliminary requirements for those entering medical colleges. One provision of the bill, which took away a privilege now accorded students of smaller colleges of good standing, namely, that of entering the second year of medical college by showing an equivalent for the first year has been amended in the senate so as to retain the original privilege.

GENERAL.

Plague at **Hawaii.**—Two cases of plague were reported from Hilo, Hawaii, March 17.

More **Plague at San Francisco.**—After being free from any report of plague for many weeks, San Francisco has had one more case; this was in a Japanese woman, who died in the week ended March 21.

Examination for Army Medical Corps.—The examination will be held at the Army Medical Museum, beginning April 20, to fill forty vacancies in the junior grade of the medical department of the Army.

Florida **Postpones Quarantine.**—Every spring it has been a precaution of Florida to declare a quarantine against Cuba through fear of yellow fever. This year no quarantine will be enforced until cases of yellow fever occur in Cuba.

The **Fourth Pan American Medical Congress,** which was to have been held this year in Buenos Ayres, Argentine Republic, will not be held there on account of some unforseen complications It has practically been decided to hold the next meeting in Toronto, Canada, September next.

Vacancies **in Navy Medical Department.**—There are twenty-seven vacancies in the grade of assistant surgeon in the United States Navy. General Van Reipen and Surgeon-General Rixey are exerting every effort to fill the vacancies with young medical graduates of marked ability.

The **Navy Medical School** will hold its graduating exercises April 4. The following assistant surgeons will graduate at that time: Drs. R. A. Backman, E. M. Brown, R. E. Hoyt, M. W. Baker, J. L. Neilson, H. Shaw, F. M. Munson, H. F. Strine, J. P. Trainer, J. H. Holloway, R. H. Michels and B. F. Jennings.

Promotion **of Naval Medical Officers.**—The acting secretary of the Navy has decided officially that medical officers of the Navy must, under the law, be promoted to the next higher grade as line officers of like dates of precedence are promoted. In promoting medical officers they are to be advanced grade by grade with such line officers.

Whiting **Caught.**—We are glad to announce that F. Whiting, who was swindling physicians in Pennsylvania, New York and other eastern states, has been arrested, convicted and is now serving a six months' jail sentence. Credit is due to Drs. J. W. Morris, Jamestown, N. Y.; F. W. Frankhauser, Reading, Pa., and C. G. Hubbard, Hornellsville, N. Y., in securing Whiting's arrest and conviction. We can not allow this opportunity to pass without again urging our readers never to pay money to agents of any journal, or, in fact, to agents of anything, unless they show written and undoubted authority to make collections. Some two years ago a smooth young man swindled a large number of physicians, keeping up for several months by claiming to represent one journal for a while, then another and another, changing his name and field of operation with each change in journal.

CANADA.

Appointment.—The board of governors of McGill University have appointed Dr. James M. Elder of Montreal, assistant professor of surgery and lecturer in clinical surgery in the medical department of McGill.

Ghoul's Work at Queen's University, Kingston.—A freshman of Queen's University has recently been placed under arrest, having been caught in the act of attempting to rob a grave in a cemetery near that city.

Physicians to Speak in Montreal Churches.—The Protestant Ministerial Association of Montreal has decided that meetings should be held in all the city churches in May, at which addresses will be given by city physicians on "Tuberculosis and How Best to Prevent its Spread."

Canadian Physicians Turned Down in South Africa.—Three Canadian physicians, who went to South Africa with the Canadian Army medical corps, tried, at the conclusion of the war, to practice in the Transvaal. They were prohibited from doing so because only English diplomas were legal there They appealed to Lord Milner, but he refused to alter the regulation.

New Isolation Hospital Site Selected in Montreal.—The site of the new contagious diseases hospital, which is to be conducted under the management of the authorities of the Notre Dame Hospital, has been secured. The piece of land contains 52,000 feet and cost $15,000. The board of management of the hospital is to receive $15,000 annually from the city council for the purpose of maintaining the institution.

Honoring Dr. William Bayard, St. John, N. B.—A tribute of public regard and personal esteem was recently tendered to Dr. William Bayard of St. John, one of the oldest medical men in Canada. It took the shape of a handsomely engrossed resolution on parchment and was presented by the municipal council of St. John on the occasion of Dr. Bayard's resignation from the board of commissioners of the General Public Hospital, after a service of forty years

Medical Inspection of Schools in Montreal.—In a paper recently read before the social science department of the Women's Club, Montreal, Dr. C. H. Church of that city strongly advocated the medical inspection of the schools of Montreal, as the conditions existing in some of them are to the last degree dangerous and unsanitary. Dr. Church had recently made an inspection of some of the city schools and the conditions he found prevailing, as embodied in his paper, seem almost to be incredible in a city the size of Montreal.

Deaths from Scarlet Fever in Ontario.—The returns for Ontario for February show a great number of deaths from scarlet fever. There were in all 104 deaths from this disease as compared with 38 during February, 1902. In January there were 94 deaths from scarlet fever, so that this year already there have been over 200 deaths from this disease. The deaths in Ontario in February from other diseases were: smallpox, 4; diphtheria, 27; measles, 7; whooping-cough, 7; typhoid, 19; tuberculosis, 160; total deaths, 2,083.

Growth of Montreal Tuberculosis League.—The Montreal League for the Prevention of Tuberculosis is rapidly growing in importance. It is now virtually associated with the main body, which holds its annual meeting at Ottawa, April 16. Dr. Roddick, as chairman of the executive, and Dr. Richer, secretary, will represent the league officially; and Senator Drummond, president of the league, Professor Adami and Dr. Lachapelle will also be present. Dr. Lachapelle will shortly present a strong resolution to the City Council, recommending that a by-law be passed against the obnoxious habit of spitting in public places.

Academy of Medicine and Physicians' Club for Toronto.—A movement is now on foot in Toronto looking to the amalgamation of the Toronto Clinical Society, Toronto Medical Society, Toronto Pathological Society and Ontario Medical Library Association into an Academy of Medicine and the establishment in connection therewith of a physicians' club. The movement is being endorsed by prominent practitioners in Toronto; and it is understood that already negotiations are under way for the purchase of a very handsome residence in the very heart of the city. The movement is a very desirable one, and it is to be hoped will meet with full consummation.

Ontario Medical Association.—The annual meeting of the Ontario Medical Association will be held in Toronto, June 16 to 18, under the Presidency of Dr. J. C. Mitchell of that city. This will be the first time in its history that a three days' meeting has been deemed advisable. The chairman of papers and business is Dr. W. P. Caven, Toronto, while Dr. Bruce Riordan, Toronto, will have charge of arrangements. This will ensure success both socially and scientifically. Dr. Thos. Cullen of Baltimore and Dr. Musser of Philadelphia are to be present and contribute papers During the meeting a discussion will be held on arteriosclerosis. Dr. Harold C. Parsons, Bloor St., W. Toronto, is the general secretary.

FOREIGN.

Another Hospital Bed at Nice.—H. Humphrey Moore of California has established an American bed in the Victoria Hospital at Nice.

Veit Goes to Erlangen.—Professor Veit of Leyden has accepted a call to Erlangen to the chair of obstetrics and gynecology, in the place of the late Professor Gessner.

Legacy for Neurasthenics in Norway.—A legacy from the Meyer family of Bergen, Norway, leaves over $75,000 to be applied to the assistance of neurasthenics. Part of the fund is for children.

Measles in London is more fatal than in previous years. It is not on the list of reportable disease in many sections of England. In view of its greater severity, English physicians are urging that it be made reportable.

Personally Conducted French Medical Trip to Foreign Universities.—The "Presse Médicale" of Paris has organized several of these tours and is now arranging one to visit the universities in Spain on the occasion of the International Medical Congress.

The Tenth Congress of Polish Physicians and Scientists, which was to meet in Lemberg, Austria, July, 1903, has been postponed until July, 1904, on account of the several international meetings which have either taken place recently or will occur during the current year.

Schaudinn Receives the Tiedemann Prize.—Dr. F. Schaudinn of Berlin has been awarded the annual Tiedemann prize by the Senkenburg Society at Frankfurt a. M. for his biologic studies and monograph on the Coccidia. The prize consists of a medal and $125. The previous recipients have been Koch, Bütschli, Ehrlich, E. Fischer, Behring, and A. Kossel.

England Fears Sleeping Sickness.—The question is asked in London whether or not the so-called sleeping sickness of Africa can be transmitted to England by returning soldiers and, if so, how the danger should be handled? The disease has been known for years, but only as a rarity. Its change to an epidemic excites alarm, it is said, lest its nature be such as to threaten other than African or even other than tropical countries.

Novel Cure for Baldness.—A Weimar quack prescribed as a cure for baldness to smear the head with plum jam and spend three days and nights in the cellar. The farmer who followed his directions had a fine growth of mould by the third day, which was claimed to be the new growth of hair. But the course of treatment was interrupted by a severe cold, which kept the man in bed for three weeks. He complained to the authorities and the quack was fined $1.25.

Memorial to Panas.—The friends of the late eminent Paris ophthalmologist are soliciting subscriptions for the purpose of erecting a portrait bust of Panas in the large hall of the ophthalmic clinic where he lectured for twenty-two years. A medal is also to be struck, and all who subscribe at least $5 will receive a duplicate of the medal. Subscriptions can be sent direct to the bankers, MM. Rodocanachi et Cie, avenue Gabriel 42, Paris, or to the secretary, Dr. Monthus, rue Godot-de-Mauroi 41.

Quarantine Mecca Pilgrims.—Egypt is inspecting the caravans of pilgrims that are on their way to Mecca. Tor is a small port near Mount Sinai where each pilgrim has to stop and be investigated and have his belongings fumigated. Quarantine is established whenever there is need. The government pays the expenses of pilgrims who are detained. All boats are compelled by inspectors to carry pure water and to use wholesome food. The inspectors have the right to levy fines for infractions of rules and to detain vessels until such fines are paid. Since many pilgrims are sick or feeble and make the pilgrimage for that reason, hoping thereby to insure a right to paradise, the mortality and spread of disease is great. It is estimated that a third of those who start perish in the hardships of the desert.

Professional Secrecy Conflicting with Notification of Diseases.—The proposal to have notification of the venereal diseases made compulsory, which was discussed at the Preventive Conferences, is energetically combatted by Boulengier in an appeal to the "Presse Méd. Belge." He complains that the physician is being deprived more and more of his personal initiative, and being degraded into a mere police official. People at large are like great children. Much more can be accomplished by gentle moral suasion and example than by compulsion. What is needed is better training of medical students in the diagnosis and treatment of venereal diseases, special diplomas for specialists in this line and a "practical year" in venereal practice, with repeated post-graduate courses, which should include lectures on medical ethics. All public medical officials should be compelled to attend these courses. Unna's journal quotes his article approvingly.

German Society for Campaign Against Quackery.—A society has been recently organized for this purpose at Berlin with a large membership of physicians and laymen belonging to all classes of society. The aim of the organization is to enlighten the public in regard to the damage inflicted on health and purse by the practices of charlatans, and also to instruct the public in the proper care of the sick. Public lectures on both subjects are to be held, and examples of the damage done by quacks will be cited. Still another line in which the society hopes to accomplish much is to send delegates to the open meetings held by charlatans to take part in the discussions. Popularly worded pamphlets warning the public are also to be distributed, and the publication of a weekly journal to further the cause is contemplated. Flagrant cases of injury from quack practices are to be reported to the officials and daily press. The dues of the society are merely 25 cents a year, and the list of members already includes many prominent names, both in and outside of the profession. Dr. Siefart of Tauenzienstrasse 3, Berlin, is the treasurer. The first public meeting was held March 8 in the city hall. The charlatans and their adherents were there in full force and by their demonstrations rendered the proceedings rather noisy.

Semi-Centennial of Munich Med. Wochenschrift.—At the jubilee banquet, March 7, Dr. Merkel reviewed the history of the "Wochenschrift," which is practically the history of medicine in Bavaria. The history of the medical press in general from its earliest inception was reviewed by Dr. Sudhoff, the most complete historical sketch of this subject yet produced. Both of the addresses are to be published in the "Wochenschrift." A bust of Dr. Dollinger, who has been managing the weekly, was unveiled, and a painting and set of silver were presented to the publisher and editor-in-chief. A reproduction of the first number of the "Wochenschrift" under its primitive title of "Aerztlisches Intelligenz-Blatt," was distributed to the 160 guests. It was announced that the number of subscribers is now 9,000 and that the balance on hand for distribution to worthy objects was $3,850. Of this sum $1,230 was given to the National Physicians' Insurance Fund, $500 to the Fund for Widows and Orphans of Bavarian Physicians, and other sums to similar organizations, with $1,250 to the Pettenkofer Memorial Building Fund, $25 to the Haller Monument Fund in Berne, and $125 to the Ziemssen Memorial Fund. This makes a total of nearly $12,000 distributed for such purposes since 1897. The "Wochenschrift" has been published by a syndicate of ten physicians, to which Helferich of Kiel and Spatz of Munich have recently been added.

Campaign Against Charlatans in Germany.—The last "Allg. Med. Ct.-Ztg." reports five new successfully prosecuted suits against quacks in Germany. The Hanover court condemned L. Fette to four years at hard labor and a fine of $375 for his swindling methods, selling a box of salve that he bought in the drug stores for 10 cents for $3 to $5, and similar frauds. The Bayreuth court condemned Ahrbecker to two years of hard labor for selling abortifacients, and another charlatan, Jacob, to one month's imprisonment for receiving and treating by his methods a man with a complicated and soiled fracture of the leg, until the man was in the last stages of sepsis, when he summoned a physician. The Detmold court also condemned a magnetopath to six months in prison for treating an incarcerated hernia as "stomach cramps" until too late for suitable aid to be effective. Another magnetopath, Vigano, has also been sentenced to two years of prison at Magdeburg. It was found that he used to stand on a metal plate in the floor, connected with an electric apparatus, so that his patients could actually "feel the magnetic sparks emanating from him" as he touched them. He treated gallstones with an "oil cure," and presented the patients afterward with pebbles which he announced that they had voided. The testimony showed that the office boy ran out to pick up the pebbles as needed. He frequently received from $15 to $20 for a course of this treatment.

LONDON LETTER.

The Eyesight of School Children.

For some time the London School Board has had under consideration the question of the eyesight of the children and the means to be taken for its preservation when defective. As a result it has been decided to appoint 6 oculists. The general result of a preliminary test showed that while 80 per cent. of the children in the schools were found to have normal vision and 10 per cent. fair vision, the sight of 10 per cent. was bad, and of these 2 or 3 per cent. were very bad. Such defects of vision as existed were not due chiefly to fine work or bad lighting in the schools, but to social and nutritive conditions and to racial peculiarities, the proportion of those who had very bad sight being larger in the poorer schools than in those which were well-to-do, and larger in those schools which were predominantly Jewish than in those which were mainly Christians. The recommendation of the medical officer was that in future every child, when first admitted into a senior depart-

ment, should be examined by the class teacher, and a vision record made, such test being repeated annually.

The Anatomy of the Skull Stereoscopically Demonstrated by the X-Rays.

At the Royal Academy of Medicine in Ireland Dr. W. S. Houghton pointed out that the difficulty of interpreting a single skiagram arose from several causes. The *x*-ray picture was an example of uniplanar projection of multiplanar objects. This caused superposition of shadows. Then the fact that the *x*-rays formed a diverging cone caused magnification and obliquity distortions. These sources of inaccuracy in the "single picture" were eliminated by the beautiful stereoscopic method of Roentgen photography of Mr. Mackenzie Davidson. By this method a reproduction of the skull could be obtained, perfect in contour and perspective. Dr. Houghton showed by diagrams how all sources of inaccuracy were eliminated in the stereoscopic method and afterwards in the reflecting stereoscope showed prints of the base of the skull and lateral views in which general points were well demonstrated, including the relations of the groove for the lateral sinus to the mastoid air cells, the mastoid emissary vein, the internal auditory meatus, the external auditory meatus, the cochlea, the semicircular canals, the canal for the internal carotid artery, and the foramina in the base of the skull.

The Physical Condition of School Children.

The physical deterioration of the town population, which ever increases at the expense of the country, has given rise to serious forbodings by those interested in the national welfare. A royal commission appointed to inquire into the physical training of children in Scotland has just presented its report. The principle that education should consist in training the body, as well as the mind, though acted on in the schools of the upper classes and in the universities, is systematically ignored in the state-provided schools for the mass of the population. The commissioners ask for a more comprehensive concepfion of school life than prevails, and provision of larger playgrounds and exercise halls. They consider that too many subjects are attempted to be taught and that the children are too closely confined to their books. Systematic school exercises are recommended. At present in the schools in Scotland only from half an hour to two or three a week are devoted to physical training. The commissioners have collected some rather alarming statistics concerning the prevalence of diseases of the eyes, ears, nose and throat.

Paraffin Injections in Prolapse of the Bowel and Uterus.

At the Clinical Society Mr. Stephen Paget read a paper on this novel method of treatment. He described the case of a man aged 65 who in 1897 underwent excision of the rectum for cancer. Ever since he suffered prolapse of the bowel and was compelled to wear a rectal plug. On January 15 paraffin was injected into the prolapse bowel, forming two round, hard nodules under the mucous membrane, so that the orifice was closed by a sort of valve. The prolapse was cured and the use of the plug discontinued. In another case a woman aged 70 had suffered from prolapse of the bowel for 22 years, and had undergone 5 operations. Prolapse occurred on the slightest effort, and if the motions were very loose she had no control over them. On February 15 paraffin was injected under the mucous membrane and formed a hard collar, more than half of the bowel. This produced great improvement, but still slight prolapse at times. March 1 a second injection was made and the anal orifice was narrowed by Mayo-Robson's operation. The prolapse was permanently cured. In a third case a woman aged 63 had for 28 years suffered from prolapse of the uterus, in spite of an operation performed 14 years before. The vagina was so dilated that it would not contain a pessary, and there was complete prolapse of both walls and of the cervix, which was greatly enlarged. Paraffin was injected in various directions under the mucous membrane of the vagina, mostly in the posterior wall and under the mucous membrane of the cervix. Since then there had been no prolapse, not even when she strained. The cervix was high, and both vaginal walls were indurated, and the recto-vaginal septum was half an inch thick.

As to Prognosis.—Never be too sure. Be not over-positive. A wrong prognosis is always bad—for the doctor. One that is conservative and guarded is always safe for the reason that it permits one to turn either way in modification of the former contingent opinion, and thus always be right.—"Med. Council."

Correspondence.

Pompeii and the Alleged Lost Art of Gynecology.

BARRY, ILL., March 21, 1903.

To the Editor:—Enclosed please find an article which appeared in "Current Literature" of December, 1900, based as to the knowledge alleged to have been in existence in the time when Pompeii was in existence, that is, before 770 A. D., on an article in the "Scientific American." I saw, some weeks ago, in the "Sunday Globe-Democrat," the same statements, only stronger. I mislaid the copy which I intended to send you at that time, but, fortunately, while looking over some old numbers of the "Current Literature" I find the enclosed.

[The enclosure credits the Pompeiians with having a great number of surgical instruments the exact counterpart of those used to-day and further declares that gynecology in its present degree of perfection was existent 2,000 years ago.]

Now, I do not believe a word of the statement for two reasons: If such were a fact, it would be very strange if no hint of the kind is to be found in the works of the Elder Pliny, who perished in the eruption of Vesuvius which destroyed Pompeii, he being in command of the Roman fleet stationed in the Bay of Naples. His works are well known to contain a hodge podge of almost everything known at that time which by any possibility could be considered at that time as belonging to natural history and a great deal that has no sort of relation thereto. But if it should so happen that he does not deal in medical and surgical knowledge, my second reason is much stronger, for, as you know, we have what the Encyclopedia Brittanica,, vol. 23, p 675, calls the "Authoritative Treatise of Paul of Argina, 650 A. D.," which contains no mention of any such wonderful instruments. I suppose that the translation by Travis Adams, 3 vols., London, 1847, is easily to be found in some of the Chicago medical libraries. I think if I am right that THE JOURNAL ought to have an article on the subject. I should think that Dr. Senn might well occupy some of his learned leisure, if he has any at this time of year, in writing such an article; it ought to be illustrated by pictures of those wonderful "anticipations" by the ancients of the proudest achievements of modern surgery.

E. W. BAKER.

ANSWER.—There is a popular superstition that there are lost arts; that in times past the earlier civilizations excelled the efforts of our times. Wendell Phillips used to have a favorite lecture which he delivered through the country on these lost arts, which may have been a partial cause of the prevalent notions on the subject. The fact is, however, that there is no lost art. Whatever was lost during the middle ages has been more than recovered. Dr. Senn's paper on Pompeiian surgery and surgical instruments, "Medical News," Dec. 28, 1895, which seems to be unknown to our correspondent, while it illustrates surgical instruments obtained at Pompeii, gives no evidence of anything to compare with the imaginations of the writer of the article in "Current Literature" referred to by Dr. Baker. The instruments Dr. Senn illustrates are crude and, while they seem to suggest in some respects modern appliances, etc., they are very far from being what a surgeon of the present day would care to be restricted to in his surgery, and a very poor mechanic at the present time could improve on them. As the late Prof. Joseph Henry used to say, there is no lost art except that of reckless and unlimited waste of human life, to which many of the great works of the ancients, as now shown in the ruins of Baalbec and in the Pyramids, can be attributed. Human life and time counted for little with the despots of the Orient in the early history of the world.

Osteopaths and Legislation.

NEW YORK, March 28, 1903.

To the Editor:—It seems incredible that the osteopaths should have been enabled to gain favorable legislation in several states, and it makes one feel that the physicians have not properly presented the matter in discussions before legislative

committees. On several occasions when I have been present it was painfully evident that regular physicians who were being depended on by members of the committee had not read any of the books or other literature of the osteopaths, and that they were not prepared to take a dignified position in discussions. It seems to me that the osteopaths could always be defeated without the necessity for any very elaborate argument if some physician would take the trouble to have properly-prepared specimens of spinal columns to show to members of the committee. I have chosen a longitudinal section of a child three or four years of age, preserved in formalin solution, and the fresh rack of a lamb. The osteopaths are then asked to state that they cure diseases by "setting or moving" vertebræ and ribs and other bones, and the fraudulent nature of their pretension is so apparent to legislators who have the specimens before them, that even as laymen they are at once convinced of the deception that is practiced on patients, and one need not turn any fine points in rhetoric, or polish his diction in preparation for the discussion. There is one point in osteopathic bills that is misleading to legislators. I quote from this year's New Jersey Senate Bill No. 218, Page 4, Section 9: "The certificate or license granted by said board shall not in any way be construed to authorize the holder thereof to prescribe or use drugs in his or her practice, nor to perform operative surgery." This sounds very innocent, but it means that osteopaths will take charge of all sorts of cases that really should have the benefit of drugs or of operative surgery.

58 West 56th Street. ROBERT T. MORRIS.

Priority in Technic of Tubercle Bacilli Recognition.

CHICAGO, March 30, 1903.

To the Editor:—In your issue of March 28, I notice an abstract of a paper which appeared in the "Deutsche Zeitschrift für Chirurgie" by Forssell on an "Improved Method of Determining the Presence of Tubercle Bacilli in the Urine."

I would direct your attention to the fact that the process described is identical in every essential feature with the method introduced by Dr. J. E. Skinner and myself a number of years ago and described by us in an article published in THE JOURNAL of the American Medical Association, Jan. 29, 1898. Our process, as described in this paper, consists in separating the sediment from a considerable volume of urine by gravity (preferably in a tapering glass vessel like a percolator), drawing off the deposit, and reducing it to a very small bulk by centrifuging. Forssell's method, as will be seen by consulting the abstract referred to, is practically identical with this.

It is true that our method was especially devised and introduced for the purpose of detecting casts in the urine, and this fact is indicated in the title of our article. But in two or three places we refer to its use in examining for any sediment, and in next to the last paragraph we speak of its great advantage in testing urine for micro-organisms, especially when they are sparingly present.

I may add that I have used the method now for six or seven years and find it fully as advantageous as claimed in our article for the detection of casts and all other sediments when present in small proportion, and I am glad to have the added testimony of Forssell in regard to its value in examining for tubercle bacilli. WALTER S. HAINES.

A Vigorous Protest.

CHICAGO, March 30, 1903.

To the Editor:—I wish to protest as vigorously and publicly as may be against the sentiment, the lack of good taste, the apparent deplorable motive, and the contents of the editorial with the Latinized caption, on page 855 of the last issue of THE JOURNAL. This poorly conceived, libelous and anonymous assault on the scientific labors of Dr. Jacques Loeb, and on his personal character, does not add dignity to THE JOURNAL, nor is it calculated to cultivate respect for the Association among the many students of this pioneer in physiology. I have read it with shame and disgust, and I call for a public apology from the censorial editor of his flagrant neglect of duty. BAYARD HOLMES, M.D.

ANSWER.—A careful reading of our editorial will, we think, convince one that our critic is over-sensitive in his interest in the eminent physiologist referred to. It was not intended to reflect in any way on his personal character or scientific work, but to criticise the unfortunate—to say the least—sensationalism which has attended most of the announcements of his discoveries in the public press, and to notice the latest statements credited to him which seem to be extreme and scientifically presumptuous. We do not think an apology is called for.

The Sub-Section on Tropical Medicine.

NEW YORK, March 28, 1903

To the Editor:—Allow me the observation that tropical medicine is of such vast importance that a sub-section as proposed by you and which you editorially endorse would not cover the ground. Why should the Section on Hygiene and Sanitary Science have anything to do with it? That section has as much interest in every other section as it would have in tropical medicine. ALBERT S. ASHMEAD.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

WHY IS THE A. C. E. MIXTURE NOT USED MORE?

MAHONY CITY, PA., March 23, 1903.

To the Editor:—Dr. Willy Meyer (in THE JOURNAL of February 28 and March 7) quotes our English colleagues as having used the A. C. E. mixture in 15,000 cases without one death. If this is true kindly advise me why the A. C. E. mixture is not used more in this country. GEORGE W. REESE.

ANS.—The A. C. E. mixture has never achieved the popularity in this country that it has in England. We believe it is used there more than is either ether or chloroform. Deaths are, however, reported from its use.

MADRID CONGRESS RAILROAD CERTIFICATES.

NEW YORK, March 25, 1903.

To the Editor:—The following information has just been received by cable from the Secretary-General of the Fourteenth International Medical Congress: The French railroads have made their rate reductions for the members of the International Medical Congress depend on a special certificate, and on the use of the same route for going and returning. Any member of the congress to whom this is of interest should therefore write immediately to the secretary-general at Madrid, stating at what port he expects to land and what route he will take. The secretary-general will send to him at the port named under the address "poste restante" the necessary certificate. JOHN H. HUDDLESTON,
Secretary American Committee.

MATERNAL IMPRESSIONS.

ATCHISON, KAN., March 26, 1903.

To the Editor:—In THE JOURNAL of March 21, Dr. A. G. Belsheim reports a case of so-called maternal impression. The Doctor evidently wishes to convey the inference that the burn was responsible for the birthmark.

The maternal-impression belief is as old as the race and apparently as ineradicable as the unlucky Friday superstition. Occasionally some one meets misfortune on Friday; therefore Friday is responsible. Very rarely a powerful shock or accident occurring during pregnancy is followed by the appearance of a mark on the child at birth; such a coincidence is promptly regarded as a case of cause and effect. When an expected marking doesn't appear—which is the case at very many births—the maternal-impression theory receives no discredit thereby, but possibly some pious reflection on the efficacy of prayer may be elicited instead.

Surely at this late day the maternal-impression superstition should be relegated to the medical lumber-room. When it is remembered that there is practically no more anatomic or physiologic connection between the nervous systems of the mother and her unborn child than there is between the nervous systems of the setting hen and her unhatched chicks, how can the belief in the transmis-

sion of nervous influences so powerful and so selective as to produce specific localized structural lesions, be entertained. Such an unscientific theory may be good christian science or good sewing-circle-science, but surely it is too absurd a notion to merit the credence of intelligent medical men

The grief of the mother of an imperfect child is usually great enough without adding to her distress by laying the blame for the unfortunate occurrence on her. On the contrary, physicians had far better try to relieve the sacred period of motherhood of the cruel, absurd belief, that the mother can, by any possible means, "mark" her unborn child. E. T. SHELLY.

Marriages.

ARC. D. FERGUSON, M.D., to Miss Elma Gaulding, both of Frost, Texas, February 25.

CLINTON B. HERRICK, M.D., Troy, N. Y., to Miss Mary M. Slavin of Cohoes, N. Y., at Jersey City, N. J., March 19.

ABBIE M. WINEGAR, M.D., Battle Creek, Mich., to Mr. W. Ray Simpson of Helena, Cal., at San Francisco, March 8.

LIEUTENANT HENRY S. KIERSTED, assistant surgeon, U. S. Army, to Miss Edith McBean of San Francisco, March 28.

Deaths.

John Wallace Collins, M.D. University of Louisiana, New Orleans, 1860, throughout the Civil War a surgeon in the Confederate service, professor of gynecology and abdominal surgery Denver Medical College from 1886 to 1895 and emeritus professor since 1895, president of the Colorado State Medical Society 1888-1889, physician and chief surgeon at the Colorado State Penitentiary, Canon City, died at the home of his brother, near Pueblo, March 20, aged 67.

Jonathan L. Cilley, M.D. Miami Medical College, Cincinnati, 1866, for 19 years demonstrator of anatomy in the Ohio Medical College, considered one of the greatest anatomy teachers in America; a surgeon during the Civil War in both Army and Navy, died March 18, in the Post-Graduate Hospital, New York City, from complications following an operation for Bright's disease, from which he had suffered for eighteen months, aged 65.

Cyrus E. Baker, M.D. College of Physicians and Surgeons, New York, 1862, who served as acting assistant surgeon in the volunteer forces until 1863, when he was invalided on account of sunstroke and malaria, and who thereafter practiced in Claremont, N. H., died at his home in that place, March 23, after many years of ill-health, aged 67.

J. Augustus Carncross, M.D. Jefferson Medical College, Philadelphia, 1876, assistant physician at the Friends' Hospital for the Insane, Frankford, Pa., a member of the Philadelphia County Medical Society, and a well-known authority on nervous and mental disease, died at the hospital, March 19, after a short illness from heart disease, aged 58.

Frederic L. Marcotte, M.D. Chicago Medical College, 1877, of Concordia, Kan., formerly surgeon of Missouri Pacific and Burlington and Missouri River railways; formerly president Republic County Medical Society, died at Leavenworth, Kan., where he had been taken for treatment, March 18.

William Eastman, M.D. Rush Medical College, Chicago, 1871, a member of the American Medical Association, and one of the most prominent practitioners of southwest Wisconsin, died at his rooms in Mineral Point, Wis., March 15, from paralysis, after an illness of a few hours, aged 70.

Charles B. Ferrell, M.D. Bellevue Hospital Medical College, New York, 1873, member of the Franklin County Medical Society, and some-time physician at the state penitentiary, died at his home in Columbus, March 23, from meningitis, after an illness of two weeks, aged 63.

Charles Howell, M.D. University of Michigan, Ann Arbor, 1861, died at his home in Ann Arbor, Mich., March 20, after a long illness, from paralysis, aged 73. He served throughout the Civil War as a surgeon on the Union side.

Herbert H. McAuley, M.D. Kentucky School of Medicine, 1889, of Chicago, organizer of the Chicago Hospital Corps in the Boer war, died at St. Joseph's Hospital, Joliet, after an operation for appendicitis, March 24, aged 32.

William A. Howell, M.D. University of the Victoria College, Cobourg, Ont., 1860, died at his home in Jarvis, Ont., March 23, from paralysis following spinal disease due to a fall from his horse in 1874, aged 66.

Spencer Morris, M.D. Cincinnati, 1846, for many years a popular quiz-class teacher of Philadelphia, died at his home in Mount Morris, Pa., after an illness of four years, from paralysis, aged 82.

Charles W. Dulin, M.D. College of Physicians and Surgeons, Chicago, 1895, of Kansas City, Mo., died at his home in Nevada, Mo., March 23, from typhoid fever, after an illness of two months, aged 30.

Norton Strong, M.D. Harvard Medical School, Boston, major and surgeon U. S. Army (retired), who was stricken with paralysis five years ago, died at his home in Baltimore, March 23, aged 51.

James Shackelford, M.D. Jefferson Medical College, Philadelphia, 1861, formerly a state senator, died at his residence in Maysville, Ky., March 25, after an invalidism of several years.

Hans M. Martin, M.D. Rush Medical College, Chicago, 1897, of Newark, Ill., died at St. Charles' Hospital, Aurora, Ill., March 17, from dropsy, after an illness of several weeks, aged 34.

Thomas T. Oliver, M.D. Medical Department of Victoria College, Toronto, 1853, died at his residence in Chicago, March 26, from pneumonia, after an illness of one month, aged 73

H. Turner Bass, M.D. University of Pennsylvania, Philadelphia, 1874, was shot by Dr. Julian M. Baker, March 16, and died on the following day at his home in Tarboro, N. C.

Henry Allan Noyes, M.D. Hahnemann Medical College, Chicago, 1891, of Pittsfield, Mass., died at Asheville, N. C., March 24, from tuberculosis, after an illness of a year.

James C. Burlington, M.D. Indiana Eclectic Medical College, Indianapolis, 1886, died at his home in Attica, Ind., from pneumonia, March 15, after an illness of ten days, aged 65.

Ross C. Kirkpatrick, M.D. Starling Medical College, Columbus, 1870, died at his office in Los Angeles, Cal., March 13, from angina pectoris, after a short illness, aged 60.

Roscoe M. Parsons, M.D. Chicago Homeopathic College, 1882, died at his office in Traer, Iowa, March 21, from an overdose of chloroform, taken to induce sleep, aged 55.

John M. Douds, M.D. Homeopathic Hospital College, Cleveland, 1881, died at his home in Beaver Falls, Pa., March 17, after an illness of several months, aged 60.

Frank Merritt, M.D. Detroit Medical College, 1877, twice mayor of Charlotte, Mich., died at his home in that place March 16, after an illness of three weeks.

John H. Fisher, M.D. Eclectic Medical Institute, Cincinnati, 1852, died at his home in Augusta, Mich., March 23, from pneumonia, after a short illness, aged 69.

Benjamin Miller Van Sickle, M.D. Bellevue Hospital Medical College, of New York, died at the home of his mother in Newark, N. J., March 15, aged 46.

Harvey L. James, M.D. University of Buffalo, N. Y., 1881, died at his home in Shelby, N. Y., March 14, from consumption, after a long illness, aged 46.

John Steifel, M.D. Homeopathic Medical College of Missouri, St. Louis, 1878, died at the home of his daughter in Bucyrus, Ohio, March 14, aged 78.

Charles Wesley Roberts, M.D. Hahnemann Medical College, Philadelphia, 1889, died in Scranton, March 20, from heart disease, aged 55.

John Miller, M.D. Heidelberg and Berlin, Germany, died at his home in Buffalo, N. Y, March 18, from gastric ulcer, aged 79.

Walter H. Vincent, M.D. New York University, 1884, died at his home in Orwell, Vt., March 6, after an illness of one week.

Robert Safford Newton, M.D. New York University, 1876, an alienist of New York City, died at his home, March 25, aged 45.

Charles F. Parker, M.D. University of Vermont, Burlington, 1883, died at his home in Boston, March 24, after a long illness.

J. P. Shacklett, M.D. Louisville Medical College, 1880, died at his home in Ekron, Ky., March 22, after a prolonged illness.

Albert R. Erskine, M.D. University of Pennsylvania, Philadelphia, 1851, died at his home in Huntsville, Ala., March 24.

Augustus C. E. Hertel, M.D. Cooper Medical College, San Francisco, 1859, died at his home in San Jose, Cal., March 14.

J. C. Archer, M.D. Ensworth Medical College, St. Joseph, Mo., 1898, died recently at his home in South St. Joseph, Mo.

Frederick Alexander Hesler, M.D., surgeon-lieutenant U. S. Navy, died at sea, March 11, from heart disease.

Warren O. Blaisdell, M.D. 1878, died at his home in Macomb, Ill., from rheumatism of the heart, March 18.

Julius C. Fox, M.D., 1878, died at his home in Keyesport, Ill., March 12, aged 65.

Book Notice.

BIOLOGICAL LABORATORY METHODS. By P. H. Mell, Ph.D., Director of Alabama Experiment Station. Cloth. Pp. 321. Price, $1.60. New York: The Macmillan Co. 1902.

This little book, while not strictly medical, is one that can be of use to the physician who utilizes the microscope. There are many uses for the microscope, moreover, that are not strictly medical which would be a profitable recreation at least for the physician who has time on his hands. The special advantage of the book is the fulness of its illustrations and descriptions of the biologic methods. It may be a little deficient in purely medical details such as special tissue stains, etc., but on the whole it is very complete.

Miscellany.

Skill in the combination of drugs, not only to increase the physiologic action of each, but to make the medicine pleasant of administration, is greatly to be desired and has made the reputation of many a man. But to attempt to prescribe for every symptom of a disease by throwing unskillfully together eight or ten drugs, as is too often done, is unscientific, dangerous and is that abomination of abominations—polypharmacy. —H. R. Purdy.

For the Removal of Tattooing.—Those who have been tattooed and who regret it may succeed in ridding themselves of these marks by the following process: Pour on the tattooed portion a concentrated solution of tannin, then by means of a needle analogous to that of the tattooer, prick the surface and then rub hard with a nitrate of silver pencil. There is formed a slough which falls at the end of fourteen or eighteen days, and the operation leaves only a slight scar, which at the end of two months is invisible.—"Cosmos."

No Patent Medicines at St. Louis Fair.—J. A. Ockerson, chief of the liberal arts department of the St. Louis exposition, says: "Articles that are in any way dangerous or offensive; also patent medicines, nostrums and empirical preparations whose ingredients are concealed, will not be admitted to the exposition. The director of exhibits, with the approval of the president, has the authority to order the removal of any article he may consider dangerous, detrimental to or incompatible with the object or decorum of the exposition or the comfort and safety of the public."—"Practical Druggist."

Overfeeding and Cancer.—Oldfield urges in the "British Medical Journal" that the overfeeding of animals and the retention in their tissues of the decomposition products make the eating of such animals as food productive of an unstable cell equilibrium which foreruns the cancer incidence, and that the same thing applies to vegetables, though in a lesser degree. During his late tour through India he found cancer practically absent from all areas where vegetation was sparse and where the animals used for food had lived a hardy existence, but in those regions marked by ranker vegetation and where the animals were more highly foddered it was more prevalent.

The Cocain Evil.—The law of Illinois specifically prohibits the sale of any article, open or proprietary, containing cocain, except on the prescription of a physician. . . . The law is certainly one of the most righteous ever enacted by a legislative body. The curse of the cocain habit to-day afflicts thousands of homes, from the palaces of the rich to the hovels of the poor. It is doubtful if the evils of alcoholism are more extensive or more destructive in their effects on society than the insidious and deadly ravages of cocain. . . . What the statute prohibits in Illinois the conscience of every druggist in America should as resolutely prohibit, and any thought of profit arising from complicity in the traffic should be as foreign as complicity in any other dastardly crime against his patrons or society in general.—"Western Druggist."

Adulteration.—Nearly every drug in the Pharmacopeia is adulterated, and, as such, fails to give the desired action. So great has this evil become that we often confess to one another that we prescribe less and less, and confine ourselves to a few fundamental drugs, remedies which we think we obtain from reliable sources and give in cases of necessity, leaving our patients to take their favorite compounds of tonics and appetizers on their own responsibility. . . . If drugs could be treated sacredly, exactly and conscientiously by the druggists, and by the public, as they are in hospitals, in experimental laboratories, and as physicians themselves treat them, the practice of medicine would be a much more satisfactory profession than it is at present.—"Medical News."

Queensland More Progressive than the United States as to the Adulteration of Foods.—While we wait in vain for our political bosses to do something for the health of the people, Queensland has perfected a system to protect her citizens from the scoundrels who seek to cheat them by the most vicious criminality in the manufacture of impure and poisonous foods. Strict laws are enforced in Queensland as to the substances that may and may not be used as ingredients, coloring matters, preservatives, etc., of beer, alcoholic liquors, mineral waters, fruit essences, foods, milk, tea, vinegar, butter, cream of tartar, etc. There are detailed laws also as to the carrying on of the businesses pertaining to the manufacture and sale of all such things, and a fine not exceeding $250 is provided for infringement of any parts of the law. Were it not for the hope that the careless and corrupt and ignorant among our people and their lawmakers will at last renounce their ways and become interested in the health and welfare of the nation, the outlook for republicanism in government would not be hopeful. —"American Medicine"

Diarrheic Form of Hyperchlorhydria.—Hyperchlorhydria is usually accompanied by constipation, but there is a variety with diarrhea, either paroxysmal or constant. Both the diarrhea and the constipation are evidently defensive reactions on the part of the intestine to the hyperacid chyme. Surmont and Lerat have been making a special study of the diarrheic form and proclaim that it is undoubtedly due to imperfect closure of the pyloric orifice, and this insufficiency is the result in turn of nervous influences, a muscular asthenia. These nervous influences are demonstrated also in the intense depression that follows the attacks, the violent abdominal pains occasionally experienced, and the secondary influence of emotions or chilling, noticed in all cases of diarrhea. Diagnosis is almost impossible without chemical investigation of the stomach contents, but differentiation is important as prognosis and treatment directly depend on it. The paroxysms of diarrhea usually occur in the middle of the night; the pain is located in the epigastrium and around the umbilicus. It subsides abruptly as the desire is felt. The subject experiences afterward great nervous depression and a nausea and distress recalling the sensations of seasickness. This condition does not subside until toward morning, and if the subject drops to sleep he awakes from time to time with a start. One of Surmont's patients was an army officer and his depression after a paroxysm was so extreme that he feared he would be compelled to leave the service, as he realized the impossibility of responding to any professional calls at such times. The condition resembles the nervous depression liable to follow the paroxysmal sialorrhea of certain tabetics or certain profuse sweats. The diarrhea may be the only apparent symptom of the hyperchlorhydria. One of the patients with the permanent form of diarrhea from this cause was a child of 11. This diarrhea always occurs very early in the morning or after breakfast and lunch. There is usually considerable pain and some nervous depression follows. Treatment is that of hyperchlorhydria in general with hydrochloric or phosphoric lemonade in cases rebellious to the usual measures.—"Echo Méd. du Nord," vii, 2.

Privileged Communications and the Physician.—At the last meeting of the New York Society of Medical Jurisprudence

Alfred L. M. Bullowa, a lawyer, read a paper entitled "The Medical Secret, or the Privilege of Physicians in Court Proceedings." He said that the present code gave every practicing physician the right to decline to answer any question or to give any testimony which would reveal any secret, condition or fact that had come to him by reason of his professional duties. This provision of law in this country is of the first importance in life insurance cases, and next in inheritance cases, where insanity on the part of the testator might be alleged. The physician is not expected to divulge professional secrets, even if he knew that his patient was deliberately perpetrating a fraud. Physicians complain that the law bears hard on them when they desire to sue for professional services, but lawyers are similarly prevented from detailing the nature of their services. In supplementary proceedings, or in bankruptcy actions, no call can be legally made on physicians for their account books if the latter contain information regarding their patients of a privileged character.

State Boards of Registration.

Texas Examination.—The next meeting of the Board of Medical Examiners (Regular) for the State of Texas will be held in Austin, April 20 to 23. For further information or application blanks, address Dr. M. M. Smith, secretary, Austin, Texas.

Indiana Examination.—A special meeting of the Indiana State Board of Medical Registration and Examination is called for April 23, when this year's graduates of the medical colleges of that state will be licensed to practice. They will receive certificates without examination if they matriculated before Jan. 1, 1901, but after Jan. 1, 1905, all graduates will be obliged to take examinations.

New Arizona Law.—The new medical practice act of Arizona, which has just passed the legislature, provides for a board of medical examiners, three regular, one homeopathic and one eclectic, appointed by the governor, meeting quarterly at Phœnix, and at such other times as it may appoint. The law provides for the issuance of license to those who are residents of Arizona, are of the age of 21 and are of good moral character, and who in addition: 1, present diploma and pass examination; or 2, present diploma and show certificate of license under the laws of 1901 or 1897; or 3, have practiced for five successive years previous to the passage of the act and pass an examination. The law provides how application shall be made, sworn to, and how certification shall be made as to character and length of practice. The fee for license is $2, and for examination $10. Those who have complied with previous laws are given until June, 1903, to comply with this law. Violation is punishable by a fine of $100 to $1,000 or imprisonment for three months to one year, or both fine and imprisonment. Other provisions of the law appear in the following portions quoted:

Sec. 5. The examination provided for in the preceding section shall be made by said board as soon after the application shall have been presented as it may be conveniently done and after notice to the applicant of the time and place thereof. The examination shall be conducted under such reasonable rules and regulations as the board may prescribe therefor, and with the design and purpose of ascertaining the fitness of the applicant for the practice of medicine in this territory. If the applicant request it, he or she shall have the privilege of being examined in the branches of the science and practice of medicine other than physiology, anatomy, pathology, chemistry, practice, surgery, obstetrics and gynecology, by the member or members of the board of the particular school of medicine specified in his or her diploma, and if the examination in such other branches be satisfactory to the member or members conducting said examination, it shall be approved by the board and to the extent thereof be deemed to be to the board's satisfaction.

Section 7. Upon proper proof to the Board of Medical Examiners of Arizona that the holder of any license issued under the provisions of this act has been guilty, since the issuance thereof, of any grossly immoral or unprofessional conduct, or of other conduct rendering him or her unfit to practice medicine in this territory, or has been convicted of any felony, said board shall, after due notice to such holder and full opportunity to him or her to defend against or refute such charges, revoke and cancel such license, and it shall thereafter be unlawful for such person to practice medicine in this territory until he or she shall again be licensed thereto under the provisions of this act.

Sec. 10. Any person shall be regarded as practicing medicine within the meaning of this act, who shall, within this territory, (a) by advertisement, or by any notice, sign or other indication, or by any statement, printed, written, or oral, in public or in private, made, done or procured by himself or herself, or any other, at his or her request for him or her, claim, announce, make known or pretend his or her ability and willingness to diagnosticate or prognosticate any human diseases, ills, deformities, defects, wounds or injuries; (b) or who shall so advertise or make known or claim his or her ability and willingness to prescribe or administer any drug, medicine, treatment, method or practice, or to perform any operation, or manipulation, or apply any apparatus or appliance for cure, amelioration, correction, reduction or modification of any human disease, ill, deformity, defect, wound or injury, for hire, fee, compensation or reward, promised, offered, expected, received or accepted, directly or indirectly; (c) or who shall within this territory diagnosticate or prognosticate any human diseases, ills, deformities, defects, wounds or injuries, for hire, fee, reward, or compensation, promised, offered, expected, received or accepted directly or indirectly; (d) or who shall within this territory prescribe or administer any drug, medicine, treatment, method or practice, or perform any operation or manipulation, or apply any apparatus or appliance for the cure, alleviation, amelioration, correction or modification of any human disease, ill, deformity, defect, wound or injury, for hire, fee, compensation, or reward, promised, offered, expected, received or accepted, directly or indirectly; (e) or who shall act as the agent of any person, firm or corporation, in the practice of medicine as hereinbefore set forth; (f) except it be in the advertisement or practice of dentistry, midwifery, or pharmacy, or in the usual business of opticians, or of vendors of dental or surgical instruments, apparatus or appliances.

Sec. 11. The provisions of this act shall not be construed to modify, or in any wise affect the provisions of the laws of this territory relating to the practice of dentistry.

Association News.

NEW ORLEANS HOTELS.

ST. CHARLES HOTEL FILLED—ANNOUNCEMENT OF HOTEL COMMITTEE.

Dr. E. D. Martin, New Orleans, Chairman of the Committee on Hotels, writes that all accommodations in the St. Charles Hotel, the headquarters, are taken for the time of the meeting. He requests that physicians who write for reservation of rooms specify what they desire, as to the time of their arrival and departure, price, baths, single or double rooms, etc. THE JOURNAL next week is the special New Orleans Number, containing an elaborate write-up of New Orleans, with many illustrations thereof. Full particulars of hotels, railroads, excursions, programs, etc., will be given.

Medical Organization.

Humboldt County (Cal.) Medical Society.

Members of the medical profession met at Eureka, March 7, and organized a county medical society, which asked affiliation with the state society.

Athens County (Ohio) Medical Society.

This society was organized at Athens, March 3, with the following officers: Dr. Charles S. McDougall, Athens, president; Dr. Edmund F. Danford, Glouster, vice-president; Dr. Ulysses P. White, Athens, secretary, and Dr. David H. Biddle, Athens, treasurer.

Rowan County (Ky.) Medical Society.

The physicians of Rowan County met at Morehead, March 21, and organized a county society, after listening to an address by Dr. Joseph E. Wells, Cynthiana, councilor for that district. The constitution and by-laws prepared by the American Medical Association were adopted without change and the following officers elected: President, Dr. F. M. Carter, Farmers; secretary, Dr. Jeremiah Wilson, Morehead.

Bath County (Ky.) Medical Society.

The physicians of Bath County met at Owingsville, March 20, and organized a county society, and adopted the constitution and by-laws promulgated by the American Medical Association without change, after an address on the subject of organization by Dr. Joseph E. Wells, Cynthiana, councilor of the district. The following officers were elected: President, Dr. Henry H. Lewis, Salt Lick; secretary, Dr. J. W. Rutherford, Sharpsburg.

Fleming County (Ky.) Medical Society.

The physicians of Fleming County held a meeting at Flemingsburg, March 18, and organized a county society, and adopted the constitution and by-laws proposed by the American Medical Association, after listening to a talk on organization from Dr. Joseph E. Wells, Cynthiana, councilor of the district. Dr. Alvin M. Wallingford, Mt. Carmel, was elected president; Dr. Charles R. Garr, Flemingsburg, vice-president, and Dr. Addison S. Robertson, Flemingsburg, secretary and treasurer.

Nelson County (Ky.) Medical Society.

The physicians of Nelson County, met at Bardstown, March 21, and organized a county society, adopting the constitution and by-laws prepared by the American Medical Association without change. The following officers were elected: President, Dr. J. Edward Smith, Bradstown; vice-president, Dr. William J. Heiser, New Haven; secretary, Dr. Hugh D. Rodman; treasurer, Dr. H. E. McKay, both of Bardstown, and delegate to the state association, Dr. Aloysius G. Blincoe, Bardstown.

Nichols County (Ky.) Medical Society.

The physicians of Nicholas County met at Carlisle, March 17, and organized a county society, after listening to an address by Dr. Joseph E. Wells, Cynthiana, councilor of the district, and adopted the county constitution and by-laws of the American Medical Association without change. The following officers were elected: President, Dr. G. W. Grimes, Carlisle; vice-president, Dr. H. Yancey, Carlisle; secretary, Dr. George B. Spencer, Carlisle; treasurer, Dr. Samuel R. Fisher, Headquarters; delegate to the state association, Dr. B. F. Reynolds, Carlisle; censors, Drs. N. H. McNew, Harry Munger and Malcolm Dills.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL MEETING, NEW ORLEANS, MAY 5-8.

Florida Medical Association, St. Augustine, April 8.
Western Ophthalmological and Oto-Laryngological Association, Indianapolis, April 9-11.
Tennessee State Medical Society, Nashville, April 14-16.
Medical Association of Georgia, Columbus, April 15.
South Carolina Medical Association, Sumter, April 15-16.
Iowa State Medical Society, Sioux City, April 15-17.
Mississippi State Medical Association, Greenville, April 15-17.
Medical Association of the State of Alabama, Talladega, April 21.
Medical Society of the State of California, Santa Barbara, April 21.
Medical Association of the State of Missouri, Excelsior Springs, April 21-23.
Kentucky State Medical Society, Louisville, April 22-24, 1903.
Texas State Medical Association, San Antonio, April 28.
Louisiana State Medical Society, New Orleans, April 28-30.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 28-30.
Nebraska State Medical Society, Lincoln, April 28-30.
Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.
Association of American Medical Colleges, New Orleans, May 4.
American Proctologic Society, New Orleans, May 5.
Kansas Medical Society, Concordia, May 6-9.
American Academy of Medicine, Washington, D. C., May 11-12.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 12-14.
American Surgical Association, Washington, D. C., May 12-14.
American Therapeutic Society, Washington, D. C., May 11-13.
American Medico-Psychological Association, Washington, D. C., May 12-15.
American Ophthalmological Association, Washington, D. C., May 13-14.
American Orthopedic Association, Washington, D. C., May 12-14.
American Pediatric Society, Washington, D. C., May 12-14.
Association of American Physicians, Washington, D. C., May 12-14.
Oklahoma Territorial Medical Association, Guthrie, May 12.

Florida Medical Association.—The thirtieth annual session will be held in St. Augustine, April 8, 9 and 10.

North Texas Medical Association.—This association has been incorporated at Sherman by Drs. Joseph M. Fort, Paris; J. T. Wilson, Sherman, and Bacon Saunders, Fort Worth.

Medical Society of the State of North Carolina.—The fiftieth annual meeting will be held at Hot Springs, June 2, 3 and 4. An especially attractive program is being prepared to honor the semi-centenary of the society.

San Bernardino (Cal.) Medical Society.—This society held its annual meeting and banquet, March 11. Dr. C Van Zwalenburg, Riverside, was elected president, and Dr. Joseph A. Champion, Colton, secretary and treasurer.

Wichita (Kan.) Academy of Medicine.—About fifty physicians of Wichita met, March 16, adopted a constitution and organized an academy of medicine, with the following officers: Dr. James E. Oldham, president, and Dr. J. M. Jacobs, secretary.

Kansas City (Mo.) Medical Library Association.—The Jackson County Medical Society and the Kansas City Academy of Medicine have joined in incorporation of the Kansas City Medical Library Association to establish a library for the medical profession of Kansas City and its vicinity. The collection now numbers about eight hundred volumes.

San Joaquin Valley (Cal.) Medical Association.—At the fifteenth semi-annual meeting held in Fresno, March 10, the following officers were elected: Dr. Joseph D. Davidson, Fresno, president; Drs. Walter E. Lilley, Merced, Nathaniel P. Duncan, Hanford, and M. L. Pettit, Visalia, vice-presidents; Dr. John R. Walker, Fresno, secretary, and Dr. Thomas M. Hayden, Fresno, treasurer.

Chicago Medical Society.—At its meeting, March 25, the society elected the following fifteen councilors-at-large: Drs. Charles S. Bacon, Arthur D. Bevan, Frank Billings, W. S. Christopher, N. S. Davis, Joseph B. DeLee, Arthur R. Edwards, Adolph Gehrmann, David W. Graham, Malcolm L. Harris, Fernand Henrotin, James B. Herrick, Louis L. McArthur, Walter Van Hook, and George W. Webster. Fifteen other councilors will be elected by the branches and affiliated societies. The councilors constitute the governing body and will elect the president and other officers and trustees at the June meeting.

Aberdeen District (S. D.) Medical Society.—This society, which comprises twelve counties in the northeast corner of the state, held its annual meeting at Aberdeen, March 17, at which the following officers were elected: Dr. Charles B. Mallery, Aberdeen, president; Dr. Lynn A. Pickering, Warner, vice-president; Dr. Henry J. Rock, Aberdeen, secretary and treasurer; Dr. Robert Hill, Ipswich, censor for three years, and Dr. Henry J. Rock, Aberdeen, delegate to the next meeting of the state association. After the routine business and reading of papers, a banquet was served in honor of Dr. H. E. McNutt, Aberdeen, at which he was presented with a fine fur-lined overcoat, as a slight testimonial of appreciation of his successful efforts in improving the standard of the profession in the state by the passage of the new medical bill requiring examination.

BUFFALO ACADEMY OF MEDICINE.

Meeting of the Section on Pathology, held March 17, 1903.

Dr. Irving P. Lyon in the Chair.

The Cardiac and Vascular Complications of Typhoid Fever.

DR. W. S. THAYER of the Johns Hopkins Hospital, Baltimore, read this paper.

Among the cardiac complications of typhoid fever we first meet acute endocarditis. The bacillus of typhoid fever has been found in this lesion. Pericarditis is a rare complication, while myocarditis is met extensively. Acute myocarditis complicating typhoid gives its clinical symptoms. Among the vascular complications we find acute endarteritis and arterial thrombosis. Gangrene of extremities due to this change has occurred.

As an exhibit under the microscope, Dr. Thayer presented a section of acute coronary endarteritis. The venous changes are better known than the arterial, e. g., venous thrombosis, which is secondary to a phlebitis. The typhoid bacillus has been found in the wall of the vessel.

In the reports of the Johns Hopkins Hospital from May, 1899, to Jan. 1, 1901, there were 1,357 cases of typhoid fever. Of these 122 cases were fatal, or about 9 per cent. In 156 cases the pulse was over 140. In only 2 per cent. of cases was the pulse under 50, in these latter cases there was no death; all convalesced. In 215 cases there were cardiac murmurs on admission; the murmurs were mostly soft systolic. A peculiarity about these murmurs was that they were only noted on first examination, not afterwards. The excitement incidental to admission, etc., can account for this. Diastolic murmurs were not met with unless the patients have given a history of having same previously. In all there were two cases of pericarditis and two cases of endocarditis. These cases were reported and were interesting. The two cases of acute endocarditis unsuspected during life were, therefore, only found at necropsy.

In regard to vascular changes in these cases reported, there were 38 cases of venous thrombosis, of which 5 were fatal.

Of these 38 cases, 36 were of the lower extremities, and mostly the left side. Thrombosis of the left iliac vein was comparatively frequent in connection with lower extremities. In all these cases of venous thrombosis this complication occurred toward the end of the fever. The typhoid thrombosis was found in one thrombus. Of the 122 fatal cases, autopsies were had in 87 cases.

Dr. Thayer urges a more general examination of the arterial lesions to see frequency of involvement. In several cases the aorta and mitral valve were involved. One hundred and twenty-six cases were accurately examined and blood pressure noted in the recumbent posture in bed. The ages varied from 8 to 69, the majority being under 30. Of these 126 cases 8 developed cardiac complications after admission. In 52.3 per cent. of the cases the radial was palpable. In 46 per cent. of the cases the radial was not palpable. The few remaining were not reported. In 110 cases the blood pressure was above normal.

Dr. Thayer did not make any general conclusions, wishing, rather, to excite the interest and the more minute examination of these complications in typhoid fever.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Injections of Yolk of Egg in Tuberculosis.

Dr. T. Boyle, in "Amer. Jour. Med. Sciences," recommends the use of the yolk of the egg, combined with equal parts of a normal salt solution, administered hypodermically. One ounce may be introduced beneath the skin without producing local irritation. He claims that the lecithin, normally present in the yolk of the egg, does not undergo the molecular change which takes place when it passes through the digestive tract. The mode of introduction hypodermically is recommended only when the digestive processes are not normal. The lecithin of the yolk is more stable than that put on the market.

Ipecac in Pneumonia.

The following method has been recommended by Perreau, in "St. Louis Clinic," in the treatment of pneumonia:

℞.	Pulv. ipecac.	gr. xv	1 |
	Mucil. acaciæ	ʒiii	90 |

M. Sig.: One teaspoonful every hour for eight doses.

Care should be observed to avoid vomiting and diarrhea by lengthening the intervals between the doses. The author states that by this method of treatment the lung is depleted and counteracts microbic infection. He reports splendid results, especially when the treatment has been begun early.

Acute Laryngitis.

The following combinations are recommended by "Merck's Archives" in the treatment of acute laryngitis:

R.	Potass. cit.	3iv	15 |
	Dionin	gr. vi	35 |
	Tinct. aconite	m. xxiv	1 | 60
	Spts. etheris nitrosi		
	Syr. tolutani, āā	3vi	24 |
	Aquæ q. s. ad	ʒiii	90 |

M. Sig.: One teaspoonful in water every two hours to relieve the cough, fever and hoarseness; or:

R.	Menthol	3iss	6 |
	Olei pini sylvestris		
	Olei eucalypti		
	Tinct. benzoini		
	Tinct. tolutani, āā	3i	4 |

M. Sig.: To be used as an inhalation from a steam kettle several times daily.

Ulcer of Stomach.

Westphalen, in an abstract in "Med. Press," recommends in the treatment of round ulcer, that in the beginning nothing be given by the mouth, except a little cold tea or Vichy water or small pieces of ice. Nutrient enema may be used during this period if necessary. This period of starvation by the mouth may continue over a period of from six to sixteen days. Then the author gives four glasses of milk daily, increasing the quantity half a glass each day. After another period of ten days he adds soups and more solid food. He advises the continuance of fresh milk or whey, with cream, as they reduce the hyperacidity of the stomach, the milk keeping the motor function of the stomach at a minimum. He also recommends bismuth in heaping teaspoonful doses, in a glass of water before breakfast in the morning. The diet should be regulated for a year. The patient should be kept in bed for three weeks at the beginning of the treatment.

Syphilis.

Horwitz, in the Amer. Text-Book of Ther., recommends the following in the treatment of the initial chancre:

℞.	Unguenti hydrargyri nitratis	gr. xx	1 | 30
	Unguenti iodoformi		
	Balsami peruvianæ		
	Unguenti belladonnæ		
	Unguenti zinci oxidi, āā	3ii	8 |

M. Sig.: Apply locally. The patient should be instructed not to allow the salve to remain too long in contact with the parts; otherwise it will become rancid and cause greater injury than benefit.

The following ointment is also recommended:

℞.	Unguenti hydrarg nit.	ʒss	2 |
	Unguenti petrolati	ʒss	15 |

M. Sig.: Apply locally.

Another excellent ointment of service in hastening cicatrization is composed as follows:

℞.	Unguenti hydrargyri oxidi rubri	gr. viiss	| 50
	Unguenti petrolati	ʒss	15 |

M. Sig.: Apply locally. In the local treatment of the skin eruption the following is recommended applied to the sores after removing the crusts by the application of hot water to soften them:

℞.	Ung. hydrarg. nit.	gr. xv	1 |
	Balsami peruv.	3i	4 |
	Ung. belladonnæ	3ii	8 |
	Ung. iodoformi q. s. ad	ʒi	30 |

M. Sig.: As a local application.

The mucous patches may be easily controlled by instructing the patient to avoid all highly-seasoned foods, stimulants and such articles of diet as are liable to irritate the sores. Tobacco should be discontinued until the mouth is well. If the patches are superficial and not too numerous they should be touched with the following solution:

℞.	Argenti nitratis	gr. xxx	2 |
	Aquæ destil	ʒi	30 |

M. Sig.: Apply once daily to the patches.

The following astringent mouth wash should be used:

℞.	Potassii chloratis	3iii	12 |
	Acidi tannici	gr. xx	1 | 30
	Olei gaultheriæ	gtt. vii	| 35
	Glycerini	3ii	8 |
	Aquæ q. s. ad	ʒvi	180 |

M. Sig.: As a mouth wash two or three times a day.

And for the alopecia, to stimulate the new growth of hair, the author recommends the following:

℞.	Hydrarg. chloridi corros.	gr. vi	| 35
	Tinct. cantharidis		
	Tinct. capsici, āā	3iii	12 |
	Spts. ammon. arom.	3vi	24 |
	Spts. rosmarini	ʒvi	180 |
	Alcoholis q. s. ad	ʒxii	360 |

M. Sig: Apply locally to the scalp with a sponge moistened in the solution and use thorough friction.

Rickets.

I. A. Abt, in "Archiv. of Ped.," recommends, in treatment of rickets, that the patient be kept out of doors in order to receive an abundance of fresh air and sunshine. During the first stages of the disease children should not occupy, for too long a time,

the same position in bed on account of the softness of the bones. Spinal curvatures may also occur in infants who are held or carried in the sitting posture. They should not be allowed to stand or walk too soon for the same reason.

As to the diet, it should be digested without giving rise to fermentation or putrefaction. The food should be fresh and should contain as much fat as the child can take care of; fruit juices, beef juice and the animal broths should constitute part of the diet.

The most useful medicinal preparation is cod liver oil, given pure in doses of one-half teaspoonful three times a day. It is not so well tolerated in the summer time and had better be omitted during the summer months. Phosphorus is also recommended, and by some authors it is classified as a specific in this disease. It is best prescribed in the form of Thompson's oil, every minim of which contains 1/100 of a grain of phosphorus. The usual dose is one-half a minim or 2/200 of a grain of phosphorus.

Baths are of decided therapeutic value. Salt baths are indicated in those children who perspire profusely.

Medicolegal.

Physician Can Not Enjoin Removal from Reformatory.—The case of Marshall vs. the Board of Managers and Superintendent of the Illinois State Reformatory was brought by the former to restrain the latter parties from removing him from the office of physician of said reformatory. But the Supreme Court of Illinois thinks it clear that the trial court did not err in dissolving the temporary injunction granted and dismissing the case for want of equity, as it says that it is well settled that the title to a public office and the right to exercise its functions can not be determined by a court of chancery unless express authority so to do is conferred on the court by statute, the remedy being in a court of law. This reformatory, it holds, is a penal institution, and the position therein of physician is an office, and a court of chancery has no greater power to determine the title to such office than the title to any other public office.

Unlawfully Exposing People to a Contagious Disease.—In Nebraska all public offenses are statutory, and no person can be punished for any act or omission not made penal by the plain import of the written law. In view of this, in the case of State vs. De Wolfe, where the latter was charged with having unlawfully exposed the citizens of a village to a contagious disease by negligently keeping an infected person in a public place, the district court held that no prosecution could be maintained for the acts complained of, the code failing to specify them. But the Supreme Court of Nebraska holds that the trial court erred in dismissing the action. It says that there is as much reason now as there ever was to repress conduct calculated to injure the health of the people. Without a clear expression of purpose so to do, it can not believe that it was the intention of the legislature to so limit the meaning of the word "nuisance" as to make conduct blameless which has always been considered inherently wrong and deserving of punishment. And while there are in the state no common-law crimes, the definition of an act which is forbidden by the statute, but not defined by it, may be ascertained by reference to the common law. So a statute declaring all common nuisances to be criminal is to be construed as prohibiting every act which was by the common law indictable as a nuisance.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal.

March 21.

1 *A Review of the Recent Literature on the Intercommunicability of Human and Bovine Tuberculosis. John M. Swan.
2 *Cryoscopy. D. S. Grim.
3 Trunecek's Serum and Its Value in Disturbed Cerebral Functions Caused by Circulatory Changes, with Report of Twelve Cases. Alfred Gordon.
4 *The Operative Treatment of Goiter. Ingersoll Olmsted.
5 *Psychopathic Epidemics. (To be continued.) John B. Huber.
6 A Case of Diabetes Mellitus in a Young Child. James H. Lloyd.

1. Bovine and Human Tuberculosis.—Swan reviews the literature and concludes that the two disorders are intercommunicable, and closes his article by summarizing Koch's paper and his arguments against this view. He thinks it is a mistake to adopt extreme opinions concerning the organism causing the disease, but holds that while there are differences, they belong to the same parent stock and are modified by their environment.

2. Cryoscopy.—The methods of cryoscopy are described by Grim, who also gives a review of the theories as regard to it as summarized in the following conclusions:

1. Cryoscopy can not replace, but only supplement, the older qualitative tests and microscopical examination of urines.
2. It is probably the most delicate test we possess in detecting and estimating the effect of therapeutic measures directed toward cardiac and kidney lesions.
3. It permits of reasonable accuracy in diagnosing renal insufficiency and the type of renal lesion present, though the examinations should be prolonged over a number of days; our conclusions coinciding with Lindemann's.
4. Uremia can not be diagnosed from the examination of the urine alone.
5. Cryoscopy of the urine from each kidney, obtained by ureteral catheterization, and especially when supplemented by the phloridzin and methylene blue tests, becomes a very delicate and reliable test in determining a unilateral kidney lesion and the degree of insufficiency of the affected kidney.

Because of an insufficient number of cryoscopic examinations of the blood, we can not criticize the "interchange" theory of Koranyi.

4. Operative Treatment of Goiter.—Kocher's methods and results are described by Olmsted. He mentions, in conclusion, that he has operated on twelve patients during the last year, all cases of simple goiter, and one of exophthalmic goiter, apparently with good results in all, though he does not give details, reporting briefly only two. The average time of residence in the hospital for treatment was seven days. The important points in operation are absolute asepsis, ligation of all the bleeding vessels, avoiding the wounding of the gland proper, and the preservation of the recurrent laryngeal nerve.

5. Psychopathic Epidemics.—In this first installment of his article, Huber describes certain delusions which are frequent and are still flourishing, such as Eddyism, mesmerism, the Sanford and Simpson delusions and the Dowieism craze.

New York Medical Journal.

March 21.

7 The Development and Ultimate Result of Medical Science. Andrew F. Currier.
8 *The Treatment of Felon. Edward Wallace Lee.
9 *Report of a Case of Epidemic Parotiditis, with Fatal Termination. W. J. S. Stewart.
10 *A Study of Tuberculous Infection—Special Susceptibility of Childhood—Causes and Methods of Infection—Factors of Development of the Disease. F. M. Pottenger.
11 *The Intravenous Injection of Formaldehyd. William L. Baner.
12 *The Hemorrhagic Diathesis as a Factor in the Production of Hemorrhage Following Removal of Tonsils and Adenoids. Frank H. Washburn.
13 The Treatment of Infantile Convulsions. (Concluded.) Adolph Goldhammer, O. C. Tarbox, and Edmund N. Huff.

8. Felon.—According to Lee, felon is a more serious matter than is usually supposed, and is very commonly maltreated. The method he suggests would be to give a general anesthetic with the patient in the recumbent position, with thorough asepsis, elevate the hand and arm to relieve congestion before the Esmarch bandage is applied, using slight digital pressure over the brachial artery, which will thoroughly bleach the parts before the bandage is put on. This, he says, is necessary to control the slight hemorrhage that would otherwise embarrass the operation. The hand is then placed on an aseptic towel, over a hard substance, and an incision made from a few lines back of the inflamed area to the tip of the finger, down to the bone, if necessary. The extent of the disease can be clearly seen as hemorrhage is repressed and all pus and débris should be cleaned out with peroxid of hydrogen, afterward washing the wound and cavity with a 1 per 1000 solution of bichlorid of mercury. All diseased tissue, integument, cellular tissue, tendon, periosteum and bone, etc., should be removed, not leaving a vestige; again washing the wound out with peroxid and bichlorid. The whole cavity should then

be swabbed with pure carbolic acid, immediately followed by a washing with alcohol, which will prevent over-action of the carbolic acid, and again washed with a 1 to 1000 bichlorid of mercury solution. The wound can be then closed and held in position with a snug compress, over which a dry gauze bandage is applied and over this a rubber tissue, and over all, including the whole hand, cotton gauze and a bandage, the arm and hand being placed on a splint and elevated. In four or five days the dressing can be removed. If the work has been well done the wound will be found closed, free from discharge and on rapid road to recovery. The same dressing should be reapplied, and four days more will show all the parts united. The wound now only needs a protective dressing until new epidermis and skin have formed. He thinks the results justify the pains taken in this method of treatment.

9. **Fatal Parotiditis.**—Stewart reports a case of a sailor who apparently died from heart failure, due to the excessive strain to which that organ has been subjected from embarrassed respiration for some hours before death. The obstruction was due to swelling from the parotiditis, but the death was unanticipated, as it did not seem so serious. He has not found any such case on record, nor ever read of a death from asphyxiation in this disease. It was not the immediate cause of death in this case.

10. **Tuberculosis of Childhood.**—Pottenger has studied tuberculous gland infection, etc., in children, and finds, from the facts and study of the literature which he reviews, that tuberculosis is common in childhood, causing about 25 per cent. of the deaths occurring during the last quarter of the first year, and quite a large proportion of those during the second and third years. Nearly all cases of tuberculosis show involvement of the lymph glands; and, if the fact that the process is furthest advanced is an indication, they are in a large percentage of cases to be considered the primary foci. Nearly all children show enlarged glands during the period of infancy and early childhood, of which investigation seems to show from 60 to 70 per cent. to be tuberculous, and, of those chronically enlarged, even a larger per cent. are so affected. A large proportion of those who have enlarged glands during childhood develop tuberculosis in later life; and it is probable that the gland was frequently the primary focus whence came the spread of infection. Why the bacilli do not cause a general tuberculosis in these children with lowered vitality has not been explained. It may be that they are less virulent, as has been shown by experiments, and it is possible that they meet with such opposition in these structures that they are unable to make further headway. He suggests that it will be well to collect all statistics to see if children exposed to tuberculous infection from parents and others do not have a more virulent form than those who receive their infection from less virulent sources. He thinks that the reason of the prevalence can be explained by the general mismanagement of children, their habits of putting everything into the mouth, creeping on the floor with exposure to dust, etc. Pottenger believes that many cases of tuberculosis in the adult are due to primary foci acquired in childhood. We are too apt, he says, to consider the infection as originating at the time it makes its marked appearance, though he would not say that adults can not acquire it. It is at the adolescent period that these foci are most liable to become active, during the special strain of sexual changes, social functions, studies, etc. It is the second period of life when the vitality is low and, as in early childhood, it is marked by an increased number of tuberculosis cases. From the total of his investigations he deduces the following general conclusions:

1. Tuberculous infection is very common in early childhood.
2. A large proportion of those patients who, although infected, do not show acute symptoms during childhood, develop active tuberculosis in later life.
3. In seeking the cause of this frequent infection, aside from the habits of the child and the carelessness of the parent bringing it in frequent contact with the bacillus, all those things which lower vitality at this time must be considered; and, I would call special attention to the fact that there is a connection which seems more than coincidence in the time that tuberculous infection takes place and the time that the child is most apt to suffer from catarrhal conditions of the stomach and bowels.
4. More attention should be given to the care and feeding of children, so that their systems may be resistant to infection.
5. All tuberculous children, whether they have lesions in the glands, bones, lungs, or any other part of the body, should be treated for their disease.

11. **Formaldehyd Intravenous Injections.**—Baner notices Barrow's experiences and the experimental results of Fortescue-Brickdale and others, and says from the available facts it seems improbable that formaldehyd used intravenously has a specific value in sepsis. One thing suggests itself to him, however, that we are too apt to be forgetful of the intravenous route in cases of intense toxemia, and rely too much on hypodermoclysis and the rectal enema for that dilution of the toxins which gives the poisoned tissues a breathing spell, as it were, and enables them to keep up the battle. The intravenous injection of antiseptics probably does not kill the bacteria in the blood in septic cases, but does dilute the toxins. A normal saline solution by the same route will do this equally well, and there is less danger probably of injuring the blood.

12. **Hemorrhagic Diathesis.**—Washburn reports a case of severe hemorrhage following removal of tonsils, with subsequent recovery, and discusses the possibilities of hemorrhagic diathesis in these cases.

Medical News, New York.

March 21.

14 *Some Types of Retinitis and Chorioretinitis. Alexander Duane.
15 *The Indications for Operative Interference in Intracranial Tension. Frederic S. Dennis.
16 *A Preliminary Report of the Venous Hum in Relation to the State of the Blood. C. N. B. Camac.
17 Some Physiological Observations on a Crustacean Heart. (To be continued.) George V. N. Dearborn.
18 *Pneumonia: An Infectious Disease. J. O. Cobb.
19 *Observations on American Climates and Localities in the Treatment of Pulmonary Tuberculosis. James K. Crook.

14. **Retinitis and Chorioretinitis.**—The types here noted by Duane are focal exudative chorioretinitis, occurring with acute onset, rapid course and a generally favorable prognosis, usually in young people and often without apparent cause, marked by the presence of single circumscribed exudates situated usually not very far from the optic disc; often associated with considerable edema and milkiness of the surrounding retina and impairment of vision depending on the site of the exudate. The salicylates, calomel in broken doses and rest in bed seem to furnish the best treatment. Second, plastic chorioretinitis, another form characterized by pretty sharply defined whitish aggregations of connective tissue, which may be sunk in the substance of the choroid or retina or may project out into the vitreous, even as far as the lens or the ciliary body, attributable to organization taking place in the fibrous exudate. They may develop in conjunction with a disseminated choroiditis or may accompany a retinitis, in which case they very frequently originate in a patch of hemorrhage, or they may also probably occur as a result of hemorrhage without inflammation of either retina or choroid. Once developed the plastic products are apt to remain unchanged for years, though the milder forms may be capable of absorption, with often great reduction of size. Mercury and the iodids seem to be the best treatment. The last form mentioned is retinitis circinata, which may appear in atypical forms, a case of which is here described.

15. **Intracranial Tension.**—The conditions of intracranial tension are described and illustrated by a case reported by Dennis. He remarks that the tension may be extreme, and mentions an instance where, after trephining and opening the dura, the clot made its way from the lateral ventricle through the track made in the cortex, through the slit in the dura mater and through the trephine hole, with such force as to be projected several feet in the air. The author considers that operative interference is indicated in many cases. In some the indications are very clear, while in others they are somewhat doubtful. A deep coma, in his opinion, calls for operation, and where this does not occur, if the symptoms are gradually increased in severity, it may save life. The problem, however, is hard to solve as to just when operation is demanded in some cases.

16. **Venous Hum.**—Camac tabulates a number of cases in which venous hum was present with a decidedly marked percentage of hemoglobin. He thinks the cases are not those of

incipient chlorosis. The practical point is that pallor and even a cervical bruit may not indicate anemia. The blood should be examined to determine this point.

18. **Pneumonia.**—The infectious nature of pneumonia is argued for by Cobb, who points out that it is largely a disease of cities and of overcrowding. He considers that cold and dampness have very little to do with its spread, though dryness is a considerable factor. He thinks the more rational explanation of its more frequent occurrence is that in the severe, dry winters the atmosphere is dryer than at other times and, the weather being severe, people tend to huddle more in places of amusement, in business and in homes, and the air becomes more and more infected. It is a disease, he claims, incident to overcrowding and can only be stamped out by careful attention to ventilation.

19. **Climate and Tuberculosis.**—Crook speaks of the advantages of climate, and mentions the localities which are suitable for various cases. In the early stage of the ordinary case with slight lung involvement and little constitutional disturbance there is usually improvement with change of climate. Catarrhal cases, with profuse secretion, should have a dry climate, preferably a warm one like Arizona. They usually do poorly in moist climates. Persons of the nervous, irritable and erethistic temperament do better in a marine climate, and should not be sent to high elevations. Sir Hermann Weber advises against sending cases of ulcerative tuberculous laryngitis to high elevations. Most chronic, slowly progressing cases, especially of fibrous phthisis, do best in a marine climate. Cases complicated with heart disease should be kept at a low elevation. Cases involving much loss of lung substance or a large portion of the respiratory area from any cause, usually fare badly at high elevations. The low desert land of Arizona would seem to be the ideal climate for such patients. Puny, scrofulous-appearing youths, not actual, but potential or probable cases of tuberculosis, are generally benefited by prolonged residence in high mountainous regions. There has been considerable difference of opinion as regards the proper climate for hemorrhagic cases. The author thinks that the best observers are beginning to agree that the occurrence of hemorrhage is no bar to high altitude. The tendency to pulmonary hemorrhage does not in itself furnish an indication for or against a particular variety of climate. He is also unable to find evidence that cases of phthisis with albuminuria or marked diabetes should be kept away from high altitudes, but he thinks it would be generally unwise to send them far from home. For those who can not take advantage of change of climate, there should be a sanatorium close to their home.

Medical Record, New York.

March 21.

20 *The Present Status of the X-Ray Treatment of Malignant Tumors. William B. Coley.
21 *Sigmoidoproctectomy for Cancer of the Rectum. George W. Roberts.
22 A Case of Adenoids with Malaria. Walter F. Chappell.

20. **The X-Ray in Malignant Disease.**—Coley gives a general review of the *x*-ray treatment, reporting a number of cases. He says in conclusion:

> We find abundant evidence that the *x*-rays have an inhibitory action on all forms of malignant tumors. Yet, the number of cases is insufficient to enable us to state what particular varieties are most susceptible to this influence. So far it would seem that sarcomas primary in the lymph glands yield most readily to the treatment. Superficial epitheliomas might be placed in the same category. Several cases of recurrent carcinoma of the breast have been observed in which the growths have entirely disappeared after prolonged exposures of the *x*-rays. Yet all these cases have been too recent to be classed as cured. In fact, sufficient time has not yet elapsed in a single case of cancer treated with the *x*-ray to justify us in regarding it as cured. While this should, on the one hand, prevent us from reporting patients as cured in whom the tumors have merely disappeared under treatment, it should not, on the other hand, lead us to minimize the importance of these immediate results, even be they no more than a prolongation of life or an alleviation of suffering. One can not witness the marvelous melting away or disappearance of an undoubtedly malignant tumor under a few weeks' or months' treatment with the *x*-ray, without feeling that we have a new and powerful addition to our hitherto scanty means of attacking this disease. The knowledge of this new agent is so slight that there is added hope in our very ignorance. For, by deeper insight into its nature, gained by further experience, we may hope to better utilize its power, and thus accomplish greater results. In the meantime, while the *x*-ray has a legitimate place in the treatment of inoperable cancer, present data do not warrant us in advising the method in primary operable cases.

21. **Sigmoidoproctectomy.**—Roberts' article describes the technic in detail, for which the reader is referred to the original. He reports several cases.

American Medicine, Philadelphia.

March 21.

23 *Excision of the Superior Maxillary Under Medullary Narcosis. A. W. Morton.
24 *On the Transportation of Cellular Emboli Through the Thoracic Duct into the Lungs. W. G. MacCallum.
25 *The Albumoses: Their Clinical Significance Viewed from a Modern Standpoint: Their Detection and Distinction from the Other Proteids Found in the Urine as a Means of Lowering the Death-Rate in Obscure Suppurative and Other Diseases. Thomas J. Yarrow, Jr.
26 *Influence of Marriage and Pregnancy on Diseases of the Heart. M. J. Backenstoe.
27 The Report of a Case of Malignant Edema. Isaac R. Trimble.
28 *Briefs on Physical Training. G. Frank Lydston.
29 Some Problems of Preventive Medicine. (Concluded.) Burnside Foster.
30 National Bureau of Medicines and Foods: For Pure and Honest Drugs, Chemicals and Foodstuffs. Philip M. Jones.

23. **Spinal Anesthesia.**—The case reported by Morton is of interest, as showing how high an operation may be performed under this method. The operation is the same and one of the illustrations is the same as was reported in THE JOURNAL of Nov. 8, 1902. He thinks the advantages of the method are that the anesthetizer is out of the way of the operator; avoidance of the danger of blood and secretions getting into the lungs and causing later pulmonary complications; the facts that heart disease or lung or kidney complications do not prevent it, and finally, that the shock is not so severe. He has used it in 929 cases; 76 were operations above the diaphragm, and many were similar operations to that reported.

24. **Cellular Emboli in the Lungs from the Thoracic Duct.**—MacCallum has not found any description of extensive affections of the lungs due to the cause suggested in this title, but reports a case, which he finds best explained in this way. He says we have here evidently to deal with multiple hemorrhagic infarctions of the lungs, produced by plugging of the branches of the pulmonary artery with masses of cells of the type of the lymphoid cells and larger mononuclear phagocytic cells. What is the origin? He suggests that this can be best explained by their being carried through the thoracic duct and into the subclavian vein. He thinks the study of such possibilities has not been made sufficiently thorough, though they seem to have some important bearings.

25. **Albumoses.**—Yarrow gives a lengthy article discussing the tests and clinical significance of albumoses in the urine. He thinks we have in them a very valuable aid in diagnosing concealed pus collections which has not been, to any great extent, taken advantage of, and illustrates his views by a number of brief reports of cases. He enumerates a number of conditions in which this examination might be of value. The recognition of the fact that pus is often present may relieve a situation of some of its danger and offer a chance for early operation. He is opposed, like Deaver, to placing absolute reliance on the presence or absence of leucocytes, and thinks the additional test is of some value.

26. **Marriage and Heart Disease.**—The question as to whether marriage should be advised in case of heart disease is noted by Backenstoe, who thinks we should study the degree of the disorder, especially if it is giving rise to cardiovascular symptoms, such as hemoptysis and dyspnea, and in these cases marriage should be advised against. The situation of the patient as regards occupation and environment should be taken into account, and the ability to keep quiet in case unfavorable symptoms make their appearance. If the conditions are all favorable there is no objection, but the condition of the heart should be carefully watched. All effort or fatigue should be avoided in case of pregnancy. He attributes considerable importance to the preventive action of a mixed milk diet, the milk being consumed at the rate of two quarts a day. He would not offer serious objection to marriage in the absence of cardiovascular symptoms of a certain gravity when the patient is willing to promise to follow this diet in case of pregnancy.

28. **Physical Training.**—The concluding article of Lydston reviews the more valuable forms of athletics. He thinks that

outdoor exercise is excellent, better than gymnasium practice, and the element of play should come into it as an essential. A person should have a thorough physical examination before undertaking practical athletics. The ideal form of outdoor exercise is boxing for men, and fencing is the ideal form of athletics for women. Wrestling, within proper bounds, is especially good, but it is hard to thus restrict it. Non-professional ball playing is good. Football, he thinks, is too brutal, especially as there is a chance of rowdyism. His conclusions are given that physical training is an important part of preventive and curative therapeutics, and should be taught in medical schools. Such departments of medicine as neurology and surgery, particularly orthopedic surgery, are especially enriched by a knowledge of physical training on the part of the physician. The aim should be to utilize the inherent physical capital of the individual and bring it up to the physiologic standard. Physical and intellectual development should go hand in hand. He thinks these would tend to reduce pauperism and crime if properly followed. Comparative measurements are not to be relied on. Specialism in muscle building is justified only in so far as it tends to bring up any given portion of the body to the relative proportions normal to the particular individual—to the normal symmetry. Occupation should be considered. The highly trained muscles are useless and perhaps injurious to those of sedentary occupation, and tend to muscle and visceral degeneration, and the tendency of certain individuals to become muscle and joint bound is a point which should be guarded against. The athletic habit should be guarded against, as well as athletic overstrain. The ideal system of muscle building is that which involves the least expenditure of time and the use of the least apparatus. Abdominal muscle development is the keynote of success. Of practical athletics the best forms are boxing, fencing and handball. All are best performed in the open air. Golf is admirable in this respect. The element of play, diversion of the mind and cheerful companionship is a *sine qua non* in obtaining the best results.

Boston Medical and Surgical Journal.

March 19.

31 An Account of Dr. Thaddeus MacCarty—A New England Country Doctor of Pre-Revolutionary Days. Edited by Burnside Foster.
32 *Lipoma Arborescens. Charles F. Painter and William G. Erving.
33 Suppuration of the Frontal Ethmoid, and Sphenoid Sinuses, with Brief Report of the Treatment of 237 Cases. (To be continued.) Edgar M. Holmes.

32. **Lipoma Arborescens.**—This disorder, consisting in fatty growths of the joints in connection with arthritis and tuberculosis, is described by Painter and Erving, who report seven cases. The clinical symptoms are those of a foreign body, and the authors think that in the absence of other evidence of tuberculosis it is reasonably certain that isolated villous hypertrophies without more symptoms of joint disease will not be found to be due to tuberculous infection in the cases they report. They briefly review the literature, remarking that while the condition has been noticed in pathologic works it has received very little attention in surgical text-books. The clinical picture is that of a more or less swollen joint without any signs of acute inflammation, and most commonly without even any excess of fluid. The growth sometimes produces pain; more often pain is absent, but there is often impairment of motion from locking of the joints. The tumors are attached to the synovial membrane by a pedicle, usually slender, consisting mainly of blood vessels in a mass of small round cells. In structure they vary from a soft, fatty to a tough, fibrous growth. They are very vascular, and after removal shrink to a great extent. The bulk of the mass consists, however, of normal adipose tissue, through which run bands of varying width of fibrous tissue. They adopt practically Stieda's conclusions that it is etiologically a chronic inflammatory condition of the joint. It is not a lipoma in the sense of being a new growth, but is merely a hypertrophy of normal pre-existing tissue, a hyperplasia and fatty degeneration to an extreme degree of pre-existing synovial tabs. Diagnosis is not certain in an unopened joint. Prognosis of spontaneous healing and recovery of joint function is unfavorable. They disagree, however, with Stieda's conclusions, in giving less importance to tuberculosis in the etiology.

Cincinnati Lancet-Clinic.

March 21.

34 Valedictory Address, Academy of Medicine of Cincinnati. A. B. Isham.
35 President's Address, Academy of Medicine of Cincinnati. Byron Stanton.
36 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

Medical Age, Detroit.

March 10.

37 *Treatment of Pneumonia. R. T. Morris.
38 Corneal Burns. E. M. Marbourg.
39 Nervous and Mental Phenomena of Arteriocapillary Fibrosis and Atheroma. J. E. Courtney.
40 Chloroform Anesthesia. E. T. Duke.

37. **Treatment of Pneumonia.**—Morris reviews the various treatments of the past and those recommended at present. He does not find that creosote bears out the praises that have been given it. More extended experiments should be conducted. Quinin has been advised and a very low mortality reported under its hypodermic use, but it should be further tried. Antipneumococcic serum has not met the full expectations, though many are hopeful of better results. Saline infusions are also similarly noticed. He advises to treat the patient and then the pneumonia incidentally. If the patient is strong and robust, depletion at the outset, calomel and soda, 5 grains each, followed by magnesium sulphate, morphin to relieve pain, pleasant surroundings, equable temperature with an abundance of pure air, dry cold to chest to relieve temperature, followed by the tepid bath, if necessary. Beginning on the second or third day concentrated nourishment every three hours, day and night. Strychnin, digitalis and whisky if heart shows any indication of weakness, and if collapse is imminent, hot applications and saline infusions. If the patient is of low resisting power, do not deplete, but support and nourish from the commencement. If the patient is accustomed to drink, continue it in increasing dose. He thinks that following such a course one has done all that our present knowledge warrants.

Brooklyn Medical Journal.

March.

41 *Epidemic Parotitis with Metastasis to the Female Genitalia; with Report of a Case. George McNaughton.
42 Raw Cow's Milk in Infant Feeding. Elias H. Bartley.
43 *Diagnosis of Primary Syphilis. G. Morgan Muren.
44 Some Considerations on Intra-Pelvic Infection, with Reference to Rational Treatment. Walter B. Chase.
45 Regional Tuberculosis. F. E. Lambert.

41. **Metastasis to the Female Genitalia.**—Summing up the literature, McNaughton finds that the localization of the disease in the region of the ovaries in mumps is more frequent than is generally supposed. The fact that the complication is observed less frequently in girls than in boys is due to the lesser accessibility of the parts. He reports a case.

43. **Diagnosis of Primary Syphilis.**—Muren reviews the theories of authors as regards the propriety of early treatment of syphilis, finding that the great majority, in fact, all but one leading American syphilographer, believe in the advisability of delay of syphilitic treatment until secondary symptoms have appeared.

Medicine, Detroit.

March.

46 *The Prognosis in Pneumonia. J. M. French.
47 *Method of Stamping Out Yellow Fever Suggested Since 1899. Carlos J. Finlay.
48 The Diagnosis of Chronic Interstitial Nephritis Based upon Physical Signs, Chiefly Cardiovascular. Charles L. Mix.
49 Bacillus Coli Communis. Veranus A. Moore.
50 Report of a Case of Disarticulation of the Hip for Sarcoma of Femur, with Remarks upon the Diagnosis and Prognosis in Sarcoma of the Femur. A. E. Halstead.
51 A Case of Hypertrophic Cirrhosis of the Liver, with Splenomegaly in a Young Man. Augustus A. Eshner.

46. **Prognosis in Pneumonia.**—French first notices the increase of pneumonia, its significance, if any, and the reduction of its mortality. He emphasizes the prognostic elements as, first, age, which he finds is well known, advanced years influencing mortality. As regards catarrhal pneumonia, the rule of Ziemssen that the danger increases in proportion to the youth still holds good. As regards sex, he thinks statistics show, if anything, a rather greater mortality among women, though the number of cases occurring is much less. Habits and consti-

tution have much to do with it. The percentage of deaths is large among alcoholics and degenerates. Pregnancy adds to the danger, as well as heart disease. Traumatic pneumonias are very fatal. Fleshy people suffer more than thin ones. The amount of lung tissue involved also influences mortality, the danger increasing with the amount. The upper lobes are somewhat more dangerous than the lower. The involvement of both lungs makes the prognosis more serious. Of the various complications, heart disease as well as meningitis is almost always fatal. Affections of the kidneys are dangerous. Catarrhal or capillary bronchitis is always a dangerous complication. Something is said also as regards the severity of the epidemic, which is emphasized by Osler, who considers the toxemia the most important element in the disorder. Of the individual symptoms most reliance is to be placed on the pulse. A pulse in the adult of over 120 or in children of over 140, is of grave significance, according to Quain. Marked irregularity in force or rhythm, especially in the young, is a bad sign. The table given by Sears and Larrabee seems to illustrate the law that the mortality in pneumonia is in direct ratio to the frequency of the pulse. The line of average mortality seems to be drawn at a pulse rate of 130. Below that the mortality is less than the average of 35.9; above it is higher than the average. The variations in respiratory rate follow much the same law, though the importance of respiration is much less than that of the pulse. The importance of temperature as a prognostic element is generally recognized as second only to that of the pulse, but it does not follow the same laws, according to Sears and Larrabee's figures. It seems to show a steady decrease of mortality corresponding to a rise of temperature up to 105, after which the mortality again rises, increasing with the temperature. That the mortality should be so great below 100 would be more remarkable if the number of cases were larger. The line of comparative safety would seem to be between 103 and 105, with the danger increasing above and below these figures. As regards treatment, there seems little from their studies that is encouraging, and they conclude that pneumonia is uninfluenced by treatment. French, however, is disinclined to accept this conclusion, and hopes the time will soon come when treatment will be universally admitted to be an important element in the prognosis of pneumonia.

47. **Yellow Fever.**—Finlay claims that he had pointed out the principal facts in regard to yellow fever from his clinical observations, that were subsequently determined by the yellow fever commission, differing only slightly. He thinks his right of priority has been tacitly denied by the Army board, their work only verifying the conclusions he had already reached and the results which have been so brilliant were those he had already pointed out as being probable.

Archives of Pediatrics, New York.
March.

52 *An Analysis of Twenty-six Cases of Mongolism. John Muir.
53 A Case of Autointoxication, with Neutral Magnesium Phosphate in the Urine. Charles G. Jennings.
54 *Clinical Observations on Circulatory Failure in Acute Infectious Disease. Augustus Caillé.
55 Sudden Death of an Infant Six Months Old Due to Compression of Large Blood Vessels by an Enlarged Thymus Gland. Augustus Caillé.
56 Amygdalitis Followed by Appendicitis, Nephritis and Endocarditis. E. W. Mitchell.
57 A Key to the Home Modification of Bottled Milk. J. F. Connors.
58 Report of a Case of Tetany. T. J. Elterich.

52. **Mongolian Idiocy.**—Muir has investigated 26 cases and discusses the condition generally. He found a history of drunkenness in 4 cases of his 26; 4 cases with either a family history of insanity or eccentricity; in 3 the father was violent in temper; in 1 the father was a suicide; in 4 the mother was a neurotic and excitable; in 3 cases there were twins or triplets in the family; in 3 the intra-uterine movements were hardly felt; in 3 the mongol was premature; in 1 a previous child was anencephalous; in 8 the labor was prolonged or complicated; and in about one-half the cases a statement of fright or worry was reported. Only 38 per cent. of the cases had tuberculosis in the parents and only 3 had syphilis. In 15 cases the mother had bad health during pregnancy. Fifteen were males and 11 females. He describes the symptoms, appearances, and the data as to physical development of the patients. Fourteen of the cases were idiocy of the low grade, 4 medium, and 7 of a high grade. Speech came late The best-educated one knew his own name, could spell "Monday," and knew the year and month, knew all the figures and some of the letters. The prognosis seems bad in these cases. Treatment has been of no avail and thyroid treatment was useless.

54. **Circulatory Failure.**—This is a brief preliminary report dealing with circulatory failure from direct loss of blood, shock, loss of blood and sepsis combined, and sepsis in acute infectious disease. In shock and hemorrhage it would appear that saline infusions and also hypodermoclysis can be promptly and safely used. The infusion has an immediate effect and the hypodermoclysis improves the circulation in five to ten minutes. Both are more rapid in effect than drugs and apparently increase the effects of the drugs given. It is safe to continue with the saline until the pulse is of good quality, and then to stop it. From a study of septic cases treated by saline infusion it seems that it would be safe to reserve this for septic cases where there has been decided loss of body fluids, as in severe choleraic or typhoid diarrhea. In cases of sepsis without loss of body fluids and with an imperceptible pulse and rapid respiration and a very rapid thumping of an undilated heart, saline infusions and hypodermoclysis may be warranted, but should never be employed in a routine way or when the heart's action is hampered by pericardial effusion. Seven of the 8 septic cases—the basis of this report—were looked on as hopeless and the ultimate recovery of 4 out of the 8 was in every way satisfactory, considering the gravity of the cases. Enteroclysis properly carried out with Kemp's flexible double current catheter, fifteen minutes' flow of water at 110 F., seems to be an absolutely safe method of combating circulatory failure in sepsis. It stimulates the kidneys, eliminates poisons, induces intestinal absorption of water when the body craves for it, reduces temperature to a certain degree and seems to be indicated as a routine treatment in all septic conditions, even if the kidneys are unimpaired. In severe anemia, Caillé has found that enteroclysis is followed by an actual improvement of the blood mixture, independent of the administration of drugs. In conclusion, he emphasizes that circulatory failure is not always heart failure, and more attention should be given to this fact. Enteroclysis properly carried out should be universally adopted in the practice of medicine as a therapeutic measure of undoubted value when increased elimination through the kidneys is desired, as in all forms of infective disease and in faulty metabolism generally. It may also be given in connection with medicines.

Journal of Nervous and Mental Disease, New York.
March.

59 *Report of Two Cases of Bullet Injuries to the Left Lateral Half of the Upper Portion of the Spinal Cord. J. T. Eskridge and Edmund J. A. Rogers.
60 *A Study of Sensations in Motor Paralysis of Cerebral Origin, Based upon Thirty-five Cases. Alfred Gordon.
61 Report of a Case of Mamillial Tremor of the Head. John K. Mitchell.

59. **Bullet Wound of the Spinal Cord.**—Two cases of gunshot wound of the upper left lateral half of the spinal cord are reported by Eskridge and Rogers. The direct cerebellar and the crossed pyramidal tracts were cut across in both, but the extensive inflammatory softening and the hemorrhagic infiltration came on early and the rapidly fatal termination prevented the valuable data as to localization which was desired. Still some interesting points were noted suggesting that there are fibers in the cervical region of the spinal cord that aid in elevating the upper lid of the eye of the same side, and in modifying the size of the pupil of the opposite side. These results are opposed to what has been found by experiments, but the conditions are somewhat different.

60. **Sensations in Motor Paralysis.**—Thirty-five cases of hemiplegia have been studied by Gordon, with special reference to sensory disturbance and their cerebral localization. He finds that in all the cases there was more or less sensory involvement. The order in which the sensory involvement was most frequently observed is summarized as follows:

Touch—upper limb, trunk, lower limb, face. Pain—upper limb, trunk, lower limb, face. Temperature—upper limb, lower limb, trunk, face. The stereognostic sense was disturbed in 29 cases out of 35. In 22 the loss was complete. The greater the involvement of the other sensations the more marked the astereognosis, which he thinks favors the conception of the stereognostic sense as depending on integrity of the three cardinal sensations. Paresthesia was present in only 12 cases. The special senses were involved only in 11. The longer the date of motor paralysis, the less the sensory disturbance. He is forced to the conclusion that hemisensory disturbances probably always accompany motor paralysis of cerebral origin, no matter to what extent the latter is marked; paralytic or even only paretic symptoms will at the same time show sensory symptoms. The method and persistence of investigation will determine this fact.

American Gynecology, New York.

February.

62 Study of the Cadaver of a Woman Who Died in the Sixth Month of Pregnancy. J. Clarence Webster.
63 The Technic of Vaginal Hysterectomy in Cases of Pelvic Inflammation. William R. Pryor.
64 *Hysterectomy in Puerperal Septic Infection. Charles Jewett.
65 *Hydrops Tubæ Profluens. Henry D. Ingraham.
66 *Version or Forceps, Which? S. Marx.

64. **Puerperal Sepsis.**—In this paper Jewett tabulates all the material that he has been able to obtain in regard to the effects of hysterectomy in childbed sepsis and finds a total of 116 operations. In 4 the result was not stated; of the remaining 112, 59 resulted successfully, that is, 52 per cent. In 34 operations after term labor, there were 17 recoveries, 50 per cent., and in 28 after septic abortion there were 11 recoveries, or 39.2 per cent. In 25 cases in which no extrauterine structures were involved, 19 were saved, 76 per cent. Of 12 patients in whom peritonitis was found at operation, 2 or 16.6 per cent. recovered; in 12 cases where bacteriologic examinations were made, streptococci were found. In 17 cases operated on the first week after delivery, there were 64.7 per cent. of recoveries. Seventeen operations during the second week gave 52.9 per cent. of recoveries. In 54 abdominal hysterectomies there were 27 recoveries, or 50 per cent.; and in 29 vaginal operations there were 14 successful results, 48.8 per cent. In 3 cases of supravaginal amputation with extraperitoneal treatment of the stump, all the patients recovered. No instance of recovery appears where there was a clearly-established diffuse peritonitis. The experiences presented justify the conclusion that while hysterectomy is very seldom demanded in the treatment of puerperal septic infection, the operation can not be wholly rejected. In rare instances it is clearly indicated. He gives a table of cases.

65. **Hydrops Tubae Profluens.**—Two cases are reported by Ingraham, one due to hemorrhage in childbirth, and the other probably too long-continued constipation. In the first case there has not been any relief. In the second, relief of the constipation caused relief of the symptoms, which recurred when the condition of the bowels was neglected.

66. **Version or Forceps.**—Marx favors the use of version in preference to forceps and would not sanction the application of forceps to the head above the brim, except when rupture of the uterus exists or is impending, or when we are dealing with a tetanized organ from which the waters have long escaped.

Illinois Medical Journal, Springfield.

March.

67 The Management of Our Charity Hospitals. Denslow Lewis.
68 The Care of the Perineum During Labor and the Puerperium, Based on a Study of 514 Cases. Effa V. Davis.
69 *Treatment of Septic Conditions of the Uterus. M. S. Marcy.
70 Fracture of the Femur and Its Treatment. W. A. Kuflewski.
71 What Cures? B. B. Griffith.
72 The Work of the State Board of Health. Warwick A. Shaw.
73 The Heart and Life Insurance. J. C. Sullivan.

69. **Septic Uterus.**—Marcy recommends in a case of actual abortion the leaving alone of the placenta if it is not detached or can not be detached as a whole. Examine the patient at least twice every day as to temperature. If there is a slight rise or if we can not see the patient often, then a clean fountain syringe with a sterilized glass uterine tube attached, pouring in one-half pint of hydrogen dioxid, diluted with one-third sterile warm water, allowing it to flow while introducing the tube into the uterus to prevent air entering the uterus is recommended. The os must be sufficiently open to allow the free escaps of the fluid. There should also be ready a pitcher of hot sterile water in which has been dissolved a few tablets of potassium permanganate with which to continue the douche, repeating this procedure as often as necessary. He claims that this method will be satisfactory, and says it bleaches septic debris in the uterus and renders it odorless and harmless, without doing violence to the uterus itself. In the discussion following the plan was criticised by Dr. C. B. Reed.

Archives of Otology, New Rochelle, N. Y.

February.

74 *A Brief History of Bacteriological Examinations in Suppurative Otitis Media, with Remarks upon the Relative Virulence of the Various Micro-organisms. Wendell C. Phillips.
75 *The Treatment of Acute Otitis Media. F. Bezold.

74. **Otitis Media.**—Over twenty different micro-organisms are noted by Phillips as having been observed in otitis media. The most virulent are the streptococci. Next to them he considers the diplococcus intercellularis meningitidis. The pneumococcus is frequently found, but is not to be considered especially virulent. It is probably more frequently present in purulent otitis media than any of the others.

75. **Treatment of Acute Otitis Media.**—Bezold notices several points in regard to the treatment. He insists on determination of the site of the perforation which, in his experience, was most frequent in the upper and lower posterior quadrants. He has never observed an acute perforation in the Shrapnell membrane. Multiple perforations or a marginal one, indicate tuberculous infection. He comments on the anatomic peculiarities of the pneumatic cells as affecting the duration of the disease. They differ in size and number in different cases. In ordinary tubal occlusion, if the serum is not mechanically removed and brought to absorption by the repeated use of the Politzer bag, he would practice paracentesis in the lower posterior quadrant of the ear-drum, preceding it by mechanical cleansing of the ear and irrigation with a 5 per cent. carbolic solution. The serum which exudes is removed with cotton tips, and if the remainder is not forced into the meatus by the air-bag, he would use an external air douche to force it into the nasopharynx. In ordinary acute otitis media he would operate by paracentesis and use the air douche and inflate a small quantity of boric acid powder. He considers a careful drying of the canal by dipping out the discharge with cotton tips to be very important. If acute middle-ear suppuration lasts more than two months and there are complications present which will prevent its spontaneous cure, he does not hesitate to proceed to operation, especially if pain or swelling are present below the mastoid. He objects particularly to irrigation through the catheter and to the packing of the ear canal, the so-called dry method.

Journal of the Michigan State Medical Society, Detroit.

March.

76 *The Sanatorium Treatment of Phthisis Pulmonalis. E. L. Shurly.
77 *The Nature and Treatment of Epilepsy. Herman Ostrander.
78 *Some Unsettled Points in the Consideration of Typhoid Fever. Homer E. Safford.
79 Some Points in the Differential Diagnosis of Cancer of the Stomach. Collins H. Johnston.
80 Auto-intoxication as a Cause of Gingivitis. J. C. Maxwell.

76. **Tuberculosis.**—Shurly advocates the sanatorium treatment of tuberculosis in some advanced cases, though the home treatment he considers is preferable, especially with salubrious environments, for children and young adolescents, as also among the educated well-to-do class of people during the early stages of chronic pulmonary disease. When septic poisoning has occurred, however, greater relief may be expected from sanatorium life and discipline. He thinks it would be well for general hospitals to have an annex properly built for the accommodation of these cases. He deprecates the panicky feeling about its contagion and thinks that possibly the prevalence of the disease is overestimated.

77. **Epilepsy.**—Ostrander holds that the prevalence of epilepsy may be diminished by greater attention on the part of physicians to the remote causes, especially the nutrition of children

in early life, which he thinks has much to do with the degeneration of their nervous system and in the production of later epilepsy. He also objects to the use of nerve sedatives or powerful drugs to prevent or abort convulsions. It is not always advisable to do this. The proper treatment may be summed up as régime and discipline, and since these can not always be controlled at home the colony treatment is the ideal one for a large class of these unfortunates.

78. **Typhoid Fever.**—Safford reviews certain points in typhoid fever, the diet which he finds of late years has come to be more liberal, at least according to the recommendation of certain authorities As regards the baths, he thinks the opponents and adherents of the Brand method are compromising on the tepid bath, though in cases of hyperexia the case may be a little different. The mere lowering of temperature, however, is not considered as important as formerly. Intestinal antisepsis is also mentioned. He thinks in using means for this, we should take special care as to the condition of the kidneys. The various reactions, the diazo and Widal reactions are noticed. The former may be of value in the diagnosis and prognosis. Its late appearance and persistence would indicate acute tuberculosis. The reappearance of the reaction after its disappearance for a time may help to determine the question of relapse as distinguished from the fever of complications. Its occurrence in other diseases, of course, is not to be forgotten, and is responsible for the neglect into which it has fallen. The Widal reaction is less questioned of late, but still it is not absolutely reliable, and often appears but late. If its limitations are recognized it may be used with advantage. In conclusion he calls attention to the elimination of bacteria through the urine as a possible cause of the continued danger of infection, and the question of typhomalarial fever, which he holds does not exist.

Dominion Medical Monthly, Toronto.

March.

81 *The Identity of Human and Avian Diphtheria. F. C. Harrison.
82 Report of a Case of Acute Leukemia. W. B. Thistle.
83 A Case of Hemorrhage from Stomach and Bowels Complicating Chronic Bright's Disease. W. T. Gemmell.

81. **Non-Identity of Human and Avian Diphtheria.**—After first noticing the experimental work of others, Harrison gives his own experiments, in which he inoculated fowls suffering from roup with diphtheria antitoxin without effect, and also healthy fowls with cultures of the Klebs-Loeffler bacillus, which were similarly ineffective. He also finds that he did not infect rabbits and guinea-pigs with false membrane taken from birds, and he has kept rabbits and guinea-pigs in cages with diseased hens and they have never taken the disease. He also finds that the structure of diphtheria membrane in man and fowl is quite different. In the former it consists of necrosed epithelial cells and inflammation of underlying connective tissue with abundant fibrous exudation. In fowls, however, it is entirely composed of pus cells, some small masses, and débris of epithelial cells and bacteria; micro-organisms which stain by the Gram method were seldom found. Attempts were made to increase the virulence of the hen diphtheria micro-organism, which he calls the *Bacillus cacosmus*, with success, producing roup in the hen at pleasure by inoculation from roupy pigeons He finds also that the same disease can be produced in healthy hens by the use of the *Bacillus pyocyaneus.*

Alabama Medical Journal, Birmingham.

March.

84 Annual Report of County Health Officer. J. M. Mason.
85 Puerperal Infection. T. A. Casey.
86 *The Heroin Habit Another Curse. Geo. E. Pettey.
87 Dr. W. E. B. Davis, as a Man, as a Citizen, as a Physician, as a Surgeon, and as a Friend. R. M. Cunningham.
88 *Coughs and Their Treatment. Alex. De Soto and C. W. Crimpton.
89 The Modern Hospital. J. H. Phillips.

86. **The Heroin Habit.**—The published statements that heroin does not cause the habit of using it are contradicted by Pettey, who reports cases of heroin addiction. Out of the last series of 150 drug-habit cases coming under his care, 8 had been addicted to the use of heroin, 3 were initial habits, the patients not having been before addicted to any drug. He finds the same difficulty in breaking off the habit that we have in morphin. In his experience, it differs from morphin in having less of the primary stimulating effect, being more prompt and certain as a hypnotic, and less powerful and prompt as a pain reliever. It does not so greatly impair digestion or assimilation or interfere with secretion and excretion, but it does cause constipation and interfere to a hurtful degree with the nutritive function, and its prolonged administration is liable to produce the opium habit.

88.—This article has appeared elsewhere. See THE JOURNAL of February 14, title 41, p. 470.

American Practitioner and News, Louisville.

December 15, 1902.

90 The Most Practical Organization for the Medical Department of the United States Army in Active Service. (Concluded.) Thomas P. Grant.
91 Psychology as an Adjunct in the Treatment of Disease. L. J. Jones.
92 Causes of Blindness in Kentucky: From a Study of the Eyes of the Pupils of the Kentucky Institution for the Education of the Blind. W. O. Bailey.

Medical Standard, Chicago.

March.

93 Three Cases of Hip Disease Illustrating Different Stages. John L. Porter.
94 The X-Ray in the Treatment of Deeply Located Malignant Growths. Clarence E. Skinner.
95 Commoner Diseases of the Eye. C. A. Wood & T. A. Woodruff.
96 Active Principles of Plants. Albert D. Thorburn.
97 Practical Dietetics. A. L. Benedict.
98 Pain and Its Indications. E. C. Hill.

Northwestern Lancet, Minneapolis.

March 1.

99 Switzerland as a Medical Center. G. R. Curran.
100 Influenza and Its Relation to Motor Paralysis. H. K. Read.
101 Tuberculosis. H. M. Bracken.

March 15.

102 Retropharyngeal Abscess in Infants, with Report of Cases. W. T. Adams.
103 Retropharyngeal Abscess—Two Cases. Edward J. Brown.
104 Treatment of Typhoid Fever. H. L. Staples.
105 The Symptoms of Acute Miliary Tuberculosis of the Lungs, with Report of a Case. Geo. Douglas Head.

Atlanta Journal-Record of Medicine.

March.

106 Physical Training in the Public Schools of Atlanta. Theodore Toepel.
107 The Mechanics of Mercury in Syphilis. Thomas W. Murrell.
108 Observations on Tertian and Quotidian Malarial Fevers. S. D. Kolozsvary.
109 Chloroform as a Surgical Anesthetic, and Its Administration. F. Manfred Call.
110 A Brief Study of Flat-Foot. Michael Hoke.

Chicago Medical Recorder.

March 15.

111 The Illegitimate Child in Chicago. Hastings H. Hart.
112 A System for the Surgical Treatment of Hare-Lip and Cleft Palate. Geo. V. L. Brown.
113 The Tuning Fork and Stethoscope in the Diagnosis of Fractures. Albert H. Andrews.
114 Notes on Three Hundred Consecutive Anesthesias. D. H. Galloway.
115 An Interesting Case of Syphilis. Max Reichmann.

Denver Medical Times.

March.

116 Alkaloids in the Treatment of Fevers. S. B. Miller.
117 The New Surgical Treatment for Glaucoma. Henry LaMotte.
118 Removal of the Superior Cervical Sympathetic Ganglion for Glaucoma, with Report of a Case. A. A. Kerr.
119 Operation for Chronic Osteomyelitis in a patient with a Constitutional Dyscrasia. E. S. Wright.
120 A Case of Delayed Eruption of Syphilis, Following Abortion and Resembling Smallpox. Geo. A. Moleen.

New York State Journal of Medicine, New York City.

March.

121 Hernia. S. W. S. Toms.
122 Proprietary Remedies. N. B. Bayley.
123 On Unscientific and Careless Prescribing, Secret and Proprietary Remedies. Harry R. Purdy.
124 New Devices for the Treatment of Stricture of the Esophagus. Theodore Dunham.
125 Treatment of Pneumonia. J. W. Grosvenor.

Oklahoma Medical News-Journal, Oklahoma City.

March.

126 Three Cases of Congenital Single (Unsymmetrical) Kidney, with Remarks. Ramon Guiteras.
127 Acute Appendicitis and Its Treatment. (Concluded.) John B. Deaver.
128 Plastic Surgery in Ophthalmology. Flavel B. Tiffany.
129 Report of Extrauterine Pregnancy—Two Cases of Appendicitis—Pregnancy Complicating Cyst. G. C. Perdue.
130 Malarial Fever. L. W. Palmer.

St. Louis Courier of Medicine.

March.

131 Pelvic Tumors Complicating Parturition. Henry Schwarz.
132 Typhoid Fever vs. General Miliary Tuberculosis. E. W. Cannady.
133 Hypodermatic Injections of Quinin in Malaria. John A. Collins.
134 Severe Headache and Other Nervous Symptoms Relieved by Correcting an Error of Refraction. J. E. Jennings.
135 Hematemesis in the Newly-Born Treated by Adrenalin Chlorid. Spontaneous Reduction of an Intussusception. George M. Tuttle.
136 Preventive Medicine. (To be continued.) B. F. Hart.

Medical Summary, Philadelphia.

March.

137 The Physician's Whole Duty in Cases of Appendicitis. J. R. Clemens.
138 The Morphin Habit as a Psychic Disease. C. E. Pattersen.
139 Disease and Old Age. J. L. Wolfe.
140 A Collection of Driftwood from the River of Time. Wm. Hooker Vail.
141 Masturbation. J. A. Burnett.
142 Hour-Glass Contractions with Adherent Placenta. S. S. Turner.
143 Compound Fracture of the Bones of the Hand and Foot. Thomas H. Manley.

Medical Bulletin, Philadelphia.

March.

144 Locomotor Ataxia. John V. Shoemaker.
145 Some Thoughts on Iron Therapeutics. J. C. Hill.
146 Report of Four Cases of Typhoid Fever Treated with Acetozone. Joseph V. Antill.
147 Renal Dropsy. S. C. Reisman.
148 Migraine Tablet Poisoning: A Medicolegal Matter. John A. Cutter and Dallas Flannagan.

Medical Mirror, St. Louis.

March.

149 The Proposed Surgery of Bright's Disease. Jacob Block.

Texas Medical Journal, Austin.

March.

150 Infectious Endometritis. J. W. Kennedy.
151 Remarks on the Tractus Intestinalis. Byron Robinson.
152 Puerperal Eclampsia. E. B. Parsons.
153 Delayed Union of Fractures, with Report of Three Cases. J. C. Andrews.
154 Sterility in the Female and Its Curability. S. L. Kistler.

Medical and Surgical Monitor, Indianapolis.

March 15.

155 Foul Breath. John F. Barnhill.
156 Some Elements to be Considered in Urinalysis—Phenomena of the Secretion and Excretion—Sediments, Their Tests and Method of Identification. (To be continued.) J. W. Crismond.
157 Puerperal Eclampsia and Its Treatment. I. B. Washburn.
158 Old Things Become New. G. W. H. Kemper.

Virginia Medical Semi-Monthly, Richmond.

March 13.

159 Cornual Pregnancy, with Report of a Case. Stuart McGuire.
160 The X-Ray Treatment of Cancer: Report of Cases. Thomas A. Groover.
161 Some Theories as to the Causation of Cancer. Greer Baughman.
162 Diagnosis of Cutaneous Cancers. F. H. Beadles.
163 X-Rays in the Treatment of Superficial Cancers. Alfred L. Gray.
164 Case of Leukemia—A Clinical Lecture. William Osler.
165 Pulmonary Tuberculosis—Means of Early Diagnosis—Treatment. O. F. Blankingship.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

March 14.

1 *The Diagnosis of Pulmonary Tuberculosis. C. Theodore Williams.
2 *The Nature of the Infectivity of Phthisis: A Study of the Views of Koch, Flugge and Others. Alfred Hillier.
3 *Human and Bovine Tuberculosis: The Possibility of Human Infection from Cattle. Nathan Raw.
4 *Phthisis and House Infection. J. R. Johnson.
5 *The Dietetic Treatment of Pulmonary Tuberculosis from the Point of View of Its Hematology and Histopathology. J. J. Galbraith.
6 *The Sanatorium Treatment of Pulmonary Tuberculosis, with Especial Reference to Nordrach Methods. Peverell S. Hichens.
7 Sanatoria Plus Homes for Consumption. W. Rushton Parker.

1. **Tuberculosis.**—Williams first notices the pathology and calls attention to the defenses of the air passages to protect the lungs, the tonsils, larynx, nose, especially the trachea, and to a certain extent the primary bronchi. The last two have three layers of epithelium which have to be penetrated, the top one armed with cilia, producing a strong current outwards, thus preventing the tubercle bacilli from descending. The amount of germs that must be inhaled is very great, and yet we note that comparatively few of those who inhale them suffer from pulmonary tuberculosis. He notes in this connection the well-known experience at the Brompton Hospital. The chief causes of tuberculosis, however, are two: 1. Impure air; 2, lack of proper food Frequently deprivation or starvation is the starting point of a tuberculous infection. He gives a striking instance of this in a man who had his esophagus injured by sulphuric acid, embarrassing swallowing. When death occurred, as it did shortly, his lungs were found filled with tubercles. Special conditions that favor tuberculosis are noticed, such as ossification of ribs, noted by Freund, and pleurisy. Why the apices are first involved is probably due to a certain amount of obstruction and stagnation in the upper lobes. The first place where a tubercle lesion is likely to be found is near the upper lobe about one and a half inches below the posterior apex in the superscapular region. Thence it spreads by continuity, by the lymph, by the circulation (which is the most serious and rapid method and the one which occurs when the meninges are infected) and lastly by re-inhalation of sputum. The points of diagnosis are mentioned, history, physical signs, sputum examination, diagnosis of pneumonia and of bronchitis, which in cases of catarrhal infections is sometimes difficult. As regards typhoid fever, this has more bearing in acute tuberculosis than on the ordinary form.

2. **The Infectivity of Phthisis.**—Hillier notices the different methods of the infectivity of phthisis, the chief one being the inhalation of sputum, and offers the following conclusions from the evidence he has adduced:

I hold it conclusively established that both dried tuberculous sputum dust and the minute drops coughed out by the consumptive are capable of conveying the infection. The precise proportion which each factor plays in this infection it is difficult to estimate, but there are two points in connection with the cough infection which, I think, are of special importance.

In the first place, the minute cough-sprayed drop which contains a tubercle bacillus probably in the majority of intances contains that bacillus in a condition of a high degree of virulence. The bacillus contained in the minute sprayed drop comes straight from its natural soil, and is probably more potent as an agent of infection than that contained in the dust particle which has been exposed to desiccation, and in the majority of instances to some degree of light.

Secondly, those sprayed drops which fall to the ground, or are deposited elsewhere, although they may not carry with them a large number of bacilli, nevertheless deposit such bacilli as they do carry, under conditions which ensure their rapid desiccation and formation into the smallest particles of dust. These minute drops thus add their quota of bacilli to that quantity of minute dust which alone is capable of inhalation.

With reference to the extent of the infectivity of phthisis, while I hold it to be an infective disease, I do not consider that the degree of this infectivity is a high one. But as against this we must set the fact that phthisis is a chronic disease, and that the chance of conveying the disease often extends over years.

Of those exposed to infection for brief periods only a very small minority are infected. Of those exposed for days, weeks, even months in a small confined atmosphere many escape. Why many escape and others do not escape, has not yet been scientifically demonstrated. But this we know, that be the causes of apparent immunity what they may, no person can develop tuberculosis who is not exposed to the possibility of invasion by the tubercle bacillus.

3. **Human and Bovine Tuberculosis.**—We have already given Raw's views in THE JOURNAL of February 28, ¶9, p. 609.

4. **Phthisis and House Infection.**—Johnson analyzes a number of cases of tuberculosis occurring in old houses in Richmond. He finds, out of 11, 6 arose in old ill-ventilated, narrow-windowed, sunless or dusty houses; 2 arose in houses known to be tenanted by persons suffering from phthisis; 2 were imported cases living in old houses in which the disease was rapidly accelerated; one is an imported case residing in a modern house. In not a single instance does the disease arise *de novo* in modern, decently-kept houses. It is bad building and bad management that make tuberculous houses. The modern, well-cleansed house, he says, offers no risks whatever.

5. **Diet in Tuberculosis.**—Tuberculosis is characterized by generally widespread toxic changes. The tissues in this condition are not capable of elaborating food stuffs satisfactorily. One advantage of the meat diet in addition to its directly curative effect is that it supplies organically combined iron and renders the administration of other organic hemetics unnecessary. A rational dietary in phthisis is not indiscriminate stuffing nor

indiscriminate lessening of food, but consists in furnishing a diet rich in the proper constituents. The special advantages of a meat diet in this relation is that, besides containing the nuclear bodies which have a directly stimulative action, it contains also proteids which have a high nutrient value. Sufficient fat and carbohydrates should be given to meet the physiologic needs and should be increased as metabolism and absorption improve, to the maximum which can be elaborated.

6. **Sanatorium Treatment.**—The Nordrach method is here discussed by Hichens, who claims that it is the duty of the practitioner to cultivate his observations and diagnostic skill so as to recognize the earliest signs of tuberculosis and as soon as diagnosis is made put the patient on the most thorough open-air treatment that his circumstances will allow. If the patient is poor much can be done at home, keeping his windows wide open day and night, and being under an open shelter or in a chair in the garden with a sufficient and nourishing diet. If well-to-do the patients should be sent, if possible, to a sanatorium and the best plan would be to have one in the climate in which they have permanently to live. Even in the slightest cases a very long period should be devoted to treatment and rest from work. Even after an apparent cure there are many tubercular foci which are apt to be left. If more time can not be given even one or two months at a sanatorium will be a training, and after leaving the patient should live an open-air life for one or two years. If poor one must do the best we can for them by allowing them to take up some light occupation out of doors.

The Lancet, London.

March 14.

8 Some Points in the Anatomy and Pathology of the Vermiform Appendix. W. McAdam Eccles.
9 The Nature and Anatomy of Enteroptosis (Glenard's Disease). Arthur Keith.
10 *On the Problem of Glycosuria and Diabetes. W. Hale White.
11 *The Use of Salicylic Acid as a Preservative in Food. C. J. MacAlister and T. R. Bradshaw.
12 *Concerning Anti-streptococcic Serum and Its Use in Malignant Endocarditis. Cyril Ogle.
13 How to Prevent the Spread of Pellagra in Egypt. F. M. Sandwith.
14 *The Etiology of Sleeping Sickness. Aldo Castellani.
15 On Prolapsus Uteri, with Special Reference to an Operation for Reproduction of the Sacro-uterine Ligaments. E. Stanmore Bishop.

10. **The Problems of Diabetes.**—White notices a number of things which are required to complete our knowledge in regard to glycosuria and diabetes: 1. We must have some better methods of recognition of dextrose in the urine as easy as small amounts of albumin are discovered. We want to know something more about glycoronic acid and whether people that pass it later become glycosuric; the connection of exophthalmic goiter with glycosuria is another question. We want information about the occurrence of other sugars than dextrose in the urine. Very few if any observations have been made in England on pentosuria and the question is asked whether the passing of lactose in the urine may lead to diabetes or not. The more accurate use of the term diabetes is noted as desirable. We need to find out whether alimentary cases of glycosuria become real diabetes mellitus, and the fact that many diabetics can utilize levulose much better than dextrose is of interest. The question arises whether other sugars might not be utilized in this disease. Another point mentioned by White is the extraordinary fact that patients put on a strictly carbohydrate-free diet may, if a little carbohydrate is given, excrete far more sugar than has been given. We also want an explanation why sugar disappears when coma comes on and also why the body fails to utilize dextrose when it has not lost the general power to oxidize. Coma is a matter of great importance. There is considerable evidence that it is closely associated with oxybutyric acid, which is always abundantly present and the fact that coma is sometimes benefited by giving alkalies is suggestive of this. The origin of oxybutyric acid is also of interest. There are no special anatomic changes in the nerve centers or in the peripheral nervous system with diabetes, but the fact that the knee jerk is absent in 50 per cent. of diabetics is difficult to explain. As regards treatment, the author thinks that in many instances the dieting has been too strict. Many cases are not allowed enough fat, and he thinks that the use of a large amount of alkali is excellent in the treatment of coma.

11. **Salicylic Acid and Food Preservatives.**—MacAlister and Bradshaw have experimented on the effect of salicylic acid in food stuffs and find that it exerts about the same retarding influence on digestive processes as does kitchen salt. Its effect on nutrition can not be very well elucidated by laboratory experiments. The only practical method was to take it themselves and give it to others. One of them took a dose of five grains of the pure acid every day for a month without any ill-health following, and a smaller quantity given to children every day with their dinners did them no harm. It is a curious fact that insects do not appear to be harmed by taking salicylic acid dissolved to saturation in syrup. Kolbe, quoted by Binz, while directing attention to the strong antiseptic properties of the drug, says it is not poisonous to human beings and in proof of this took himself and gave to others from 1 to 1.5 grams a day and in some cases for nine months together without apparent injury. The objection that it is injurious to the mucous membrane on account of its acid quality alone can not be maintained. The argument is fallacious that any substance which has a deleterious action on one kind of protoplasm must act deleteriously on all kinds. Some micro-organisms require oxygen while others are killed by it. While the harmfulness or not of antiseptics is a matter of disagreement, authorities are agreed as to the harmfulness of food in decomposition, and we may be courting a greater evil by barring their use. They maintain that the use of salicylic acid enables the manufacturer to place on the market, wholesome, agreeable and inexpensive articles of food for persons who can not afford the more costly luxuries and which take the place of intoxicating drinks. They say this with due consideration and with, they trust, an adequate sense of responsibility.

12. **Anti-Streptococcic Serum in Endocarditis.**—From a study of the effects of antistreptococcic serum in endocarditis including two tabulated statements of organisms present before and after the use of the serum, Ogle says, that if any conclusion can be drawn, perhaps they will be:

1. That the gravest symptoms combined with streptococcic infection, even of the blood stream, are not incompatible with recovery if treated by injections of anti-streptococcic serum. 2. That this is true also in malignant endocarditis, but that here the chances are probably less favorable on account of the colony of micrococci involved in the vegetations in constant contact with the blood stream. 3. That in malignant endocarditis staphylococci are frequent, or a mixed infection of staphylococci and streptococci. 4. That if an examination of the blood be negative it would be prudent, therefore, to use injections of anti-staphylococcic, together with anti-streptococcic serum.

14. **The Etiology of Sleeping Sickness.**—Castellani finds an organism in this disorder in the blood and the cerebrospinal fluid which he thinks a new variety of streptococci. While the streptococci are hard to differentiate, the cultivation on gelatin he thinks is sufficient to differentiate it from all others.

Australasian Medical Gazette, Sydney.

February 20.

16 Insanity in Its Relation to the Practitioner, the Patient, and the State. W. Beattie-Smith.
17 Typhoid in Hobart and Melbourne and the Influence of Drainage on Its Prevalence. James Jamieson.
18 The Spread of Typhoid Fever. Duncan Turner.
19 Pathogenesis and Prophylaxis of Typhoid Fever and Observations on Malaria in Northwest Australia. T. B. Belgrave.
20 Two Gynecological Cases. W. Throsby.
21 A Peculiar Bullet Wound. H. Cox.

Centralblatt f. Innere Medicin, Leipsic.

22 (XXIV, 1.) *Ueber das Zusammentreffen (coincidence) von Oxalurie und Indikanurie. W. von Moraczewski.
23 Green Plant Germs Growing in Stomach. A. Kühn.—Nachtrag zu der vorläufigen Mittheilung über "Das Vorkommen von grünen entwicklungsfähigen Pflanzenkeimen im Magen und deren diagnostische Bedeutung."
24 (No. 2.) *Zur Diagnose multipler Darm- (intestines) Stenosen. H. Schlesinger.
25 *Rückenmarks und Wurzel-Metameren (of spinal cord and roots) bei der Syringomyelie. L. Ferrannini.
26 (No. 3.) Zur Frage der Entgiftung (neutralization) von Strychnin. S. J. Meltzer and G. Langmann (New York). Experimental. Negative.
27 *Ueber syphilitische Beckenzellgewebsentzündung (inflammation of pelvic cellular tissue). M. Loeb.
28 (No. 4.) *Bemerkungen über Stauungsblutungen (extravasation from congestion), insbesondere infolge eines epileptischen Anfalles. K. Pichler.
29 (No. 5.) *Klinisches Phosphormeter. A. Jolles.

30 (No. 6.) *Ueber hereditäre, kongenitale Herzleiden (heart affections). L. Ferrannini.
31 (No. 7.) *Zur Diagnostik des Sanduhrmagens (hour-glass stomach). G. Rosenfeld.
32 *Zur Lehre vom milchigen (milky) Ascites. T. Christen.
33 (No. 8.) *Die Ether-Glykosurie und ihre Beeinflussung (and influence on it of) intravenöse Sauerstoff- (oxygen) Infusionen. A. Seelig.

22. **Coincidence of Oxaluria and Indicanuria.**—Moraczewski, at Carlsbad, has examined 439 persons to determine the frequency of this coincidence. He found that oxaluria accompanied indicanuria in 84.3 per cent. of the 376 cases in which the latter was noted, and in 100 per cent. of the 23 cases in which the indicanuria was extremely pronounced. Indicanuria was present in 74.2 per cent. of the 398 cases with evident oxaluria. In only 15 per cent. of the total number was oxaluria found without indican, while they coincided in 84 per cent. In only 10 per cent. was indican noted without oxaluria. The subjects were those with uric acid diathesis or oxaluria *sui generis*; or diabetics, the latter representing 23 per cent. of the total number. The digestion was apparently excellent in the majority. Altering the diet and administering alkalies modified both in the same proportion. The diet proposed by Rosin for oxaluria avoids spinach, cabbage, milk, eggs, tea and cocoa. Acid reaction is obtained with meat. This is supplemented by small doses of magnesia and copious drinking.

24. **Diagnosis of Multiple Stenosis of Intestines.**—Schlesinger reports the successful diagnosis of 4 cases of this condition. It was based on the repeated observation of the abrupt, visible erection of certain loops of intestines at a distance from each other, with no palpable rigid intestine between. The assumption of multiple stenosis is confirmed by the recurrence of these "huge snail shells pushing out the abdominal integument," at about the same place each time. Also by the subsidence of a protruding loop with borborygmi and rumbling noises. A history of syphilis or tuberculosis is an aid to the diagnosis. One of his patients had a stricture at twelve points, but recovered after "exclusion"—*Ausschaltung*—of 6.5 feet of the small intestine.

25. **Metameres in Syringomyelia.**—Ferrannini establishes by the findings in 2 cases which he describes that the sensory disturbances are of a type corresponding to the spinal cord or the roots according as the lesions are situated in the former or in the latter.

27. **Differentiation of Inflammation of Pelvic Cellular Tissue.**—Loeb reports a case diagnosed as an inoperable sarcoma which proved at the autopsy to be syphilitic gummata of the liver. Lancereaux has reported another of stenosis of the rectum in an anemic woman of 36, from compression by a mass adherent to the pelvic wall, assumed to be of malignant nature. There were no traces or history of syphilis, but the patient entirely recovered under potassium iodid, 3 gm. daily for two months.

28. **Extravasation from Congestion.**—A supposedly healthy young man awoke from an afternoon nap finding himself on the floor instead of the bed, and with his face, mouth and neck somewhat swollen and dotted with punctate hemorrhages, down to a red line around his neck. He had also urinated. The physician diagnosed the case as a first attack of epilepsy occurring during sleep, the congestion and swelling of the head aggravated by the neckband of his undershirt, loose under ordinary conditions.

29. **Phosphometer.**—Jolles has improved and simplified his apparatus for detecting phosphorus and phosphoric acid in the blood. The description is illustrated.

30. **Hereditary Heart Affections.**—Ferrannini remarks that in the history of certain families general dyscrasias, nervous affections, nutritional disorders, cardiac defects and vascular and morphologic anomalies appear before us as in a kaleidoscope, recurring in various combinations. He gives the history of one family for three generations, including 42 individuals. In 31 per cent. there was some cardiac affection, and only 7 per cent. were healthy. He attributes the inheritance of heart disease to an embryologic substratum in inherited insufficiency of the histogenetic power of the mesenchyma.

31. **Diagnosis of Hourglass Stomach.**—The usual signs of this condition may be lacking and yet it is possible to differentiate it as shown by the case described by Rosenfeld. The patient was a pale, thin man of 28. Functional tests showed HCl in abundance, but otherwise nothing abnormal in the stomach. There was no palpable constriction and the fluid contents of the stomach could be siphoned out with a soft sound. Radioscopy disclosed that the spiral metal sound rested in the usual curved line along the bottom of the stomach, but below it there was evidently a cavity, 8 cm. in height, casting a lighter shadow, and at its base could be seen the familiar lake of fluid contents. The sound could not be pushed down into this cavity until a soft sound was substituted. The history of the noises in the stomach during digestion and the occasional cramps harmonized with the assumption of hourglass stomach. The autopsy showed a marked constriction by a fibrous band, which filled up the groove it made.

32. **Milky Ascites.**—The milkiness can not be ascribed to lecithin as this may be found in the clear fluid as well, Christen finds, contrary to what some have asserted.

33. **Influence of Oxygen in Ether-Glycosuria.**—Seelig announces that in his tests on dogs, ether invariably induced glycosuria during the inhalation and also for three or four hours afterward. The proportion was 8 to 10 per cent. in the more vigorous animals. He also found that with the simultaneous intravenous infusion of oxygen, there was no glycosuria. He is now studying this interesting fact to determine whether the same measure will abolish or prevent glycosuria from other causes.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

34 (XXIX, 7.) Ueber die Priorität der Entdeckung (discovery) des Ruhr- (dysentery) Bacillus und der Serumtherapie bei der Dysenterie. K. Shiga.
35 *Tardy Brain Affections After Injuries of Skull. E. Stadelmann.—Ueber Späterkrankungen des Gehirns nach Schädeltraumen. (Commenced in No. 6.)
36 Ueber eine Stomacace-Epidemie während des sudafrikanischen Krieges (during campaign in Southern Africa). J. C. J. de Haan.
37 Ueber einen weiteren Fall von Nebenwirkung des (by-effects of) Aspirins. Otto Meyer.
38 Eine neue automatische Spritze (syringe) für Infiltrations-Anesthesie und andere Zwecke. A. Strauss.
39 Shall the General Practitioner Get a Roentgen Apparatus? Discussion.
40 (No. 8.) Caustic Action of Soft Soap. A. Most.—Ueber Schmierseifenverätzung.
41 Ueber einen neuen Apparat für die Nachbehandlung der angeborenen Hüft- (for after-treatment of congen. hip-joint) Luxation. L. Heusner (Barmen).
42 *Experimentelles über subconjunctivale Injectionen. K. Wessely.
43 Are Boric Acid and Borax without Effect or Danger for the Organism? E. Rost.—Sind Borsäure und Borax wirkungs- und gefahrlos für den Organismus? (Commenced in No. 7.)
44 Medicinische Mittheilungen aus unseren westafrikanischen Kolonien. E. Joseph.
45 Campaign Against Charlatans.—Ein Wort zur Bekämpfung des Kurpfuscherthums.
46 History of the "Sweat Cure." W. Cohn.—Zur Geschichte der Schwitzkur.
47 (No. 9.) *Weiterer Beitrag zur Ursache (cause) und spezifische Heilung des Heufiebers (hay fever). Dunbar.
48 *Zur Physiologie der Ernährung (nutrition) des Foetus. J. Veit.
49 Beitrag zur conservativ-operativen Behandlung der veralteten (old) Inversio uteri puerperalis. A. Schulze-Vellinghausen.
50 *Ueber die diagnostische Verwerthung (utilization) des Alt-Tuberkulins bei der Keratitis parenchymatosa. Enslin. (Commenced in No. 8.)
51 *Ueber Myosarkom des Magens (of stomach). Moser. (Commenced in No. 8.)
52 Gravidität und Nephritis. Heinrich. Four cases.
53 Ueber die Anwendung der Schultze'schen Schwingungen (swinging) bei Bronchiolitis und katarrhalischer Pneumonie junger Kinder (in young children). C. S. Engel.
54 Ein Nasen- (nose) Speculum mit Vorrichtung für die sterile Tamponade der Nase. L. Neufeld.
55 (No. 10.) Ueber eine Methode zur Untersuchungen des lebenden Knochenmarks von Thieren (investigation of living marrow in animals) und über das Bewegungsvermögen (capacity for movement) der Myelocyten. A. Wolff.
56 Untersuchungen über den menschlichen Schweiss (human sweat). L. Brieger and G. Diesselhorst. Cryoscopy.
57 Zur Chemie der Sauerstoff- (oxygen) Chloroform-Narkose. Roth.
58 *Proposal for Complete Reform in Dressing Infants. K. Assmus (Kiel).—Ein Vorschlag zu einer vollständigen Reform der Erstlings-Bekleidung und Wasche auf hygienischer Grundlage.
59 Occurrence of Tetanus Bacillus Outside of Point of Infection in Man. O. Hohlbeck.—Das Vorkommen des T.-Bacillus ausserhalt des Bereiches der Infektionsstelle beim Menschen.
60 *Zur Frage der Antitoxin-Behandlung bei Tetanus. Von Schuckmann.
61 Ibid. R. A. Frotscher.

62 Agurin. M. Lewitt.
63 Der Zeichenunterricht der Schule (drawing in schools) und sein Werth für den Arzt (value for the physician). Beitrag zur Schulreformfrage.

35. **Tardy Brain Affections After Injuries of Skull.**—Stadelmann relates the details of several cases to emphasize the necessity of long oversight of patients who have suffered some traumatism affecting the head. Exertion of all kinds and the resumption of the occupation should be forbidden. He now makes a practice of keeping such patients in bed for four weeks after any concussion of the brain, and not dismissing them from medical supervision until six weeks have elapsed. In one of the cases he reports the slight fracture of the skull healed with only an insignificant inflammation and circumscribed adhesion of the dura to the bone, and yet seven weeks after the accident symptoms of meningitis developed, proving rapidly fatal. The subject had been able to continue at work during the interim, after the first few days. The meningitis was caused by the pneumo- and staphylococcus. In another case a man received a severe blow on the right parietal lobe, felling him unconscious. He quickly recovered, and was apparently quite well, with no injury to the bone, for four weeks, when he developed typical Jacksonian epilepsy. The autopsy showed disturbances in the circulation at the point of the injury and directly opposite, with softening of the brain tissue and serious hemorrhage later.

42. **Subconjunctival Injections.**—Wessely describes the effect of subconjunctival injections as a local revulsion. They have a reflex action on the vessels inducing hyperemia and its consequences, and attract the protecting substances in the serum to the eye. They are, therefore, important aids in torpid processes, but are directly injurious in acute inflammatory lesions.

47. **Cause and Specific Treatment of Hay Fever.**—Dunbar is the American-German in charge of the Institute of Hygiene at Hamburg. He announces that the specific causal agent of hay fever is the pollen of certain grains which affects the predisposed while harmless for other persons. He has succeeded in reproducing the disease in winter by subcutaneous injection of a minute amount of the toxic substance in the pollen. This toxic substance is not the ethereal oily constituents of the grain, but seems to be an albuminoid body contained in the starch particles. He describes the intense typical attack induced by this procedure in hay fever patients in midwinter while the control subjects did not manifest the slightest reaction to it. He then attempted to produce an antitoxin by inoculating animals with the pollen toxin. For several months the serum of the animals not only failed to neutralize the toxin *in vitro*, but aggravated the symptoms when injected into hay fever patients. But gradually the serum acquired antitoxic power. In the course of his tests he had inoculated 8 hay fever patients in January by instilling into one eye ground corn pollen grains in a centrifugalized aqueous suspension. In every case, without exception, the subjective and objective symptoms of hay fever were produced in varying intensity, while none of the 11 control subjects displayed the slightest objective reaction, even on repetition of the dose and with twenty times the concentration and amount. In the tests of the new serum he instilled into the other eye of the same hay fever patients, the same amount of pollen toxin as before, but mixed with the antitoxin. The eye itched slightly and appeared slightly congested, but all traces of the congestion and itching had vanished by the end of half an hour. In other tests he instilled a drop of concentrated pollen toxin in the eye of a hay fever patient. As soon as the caruncle became congested and the parts smarted he instilled four drops of the antitoxin in the course of twenty minutes. The result was the complete neutralization of the effects of the pollen toxin. The same results, only more striking, were obtained in the nose. He used the pollen from corn in his tests but found that the serum was just as effective against pollen toxin from rye in tests *in vitro* and on the one hay fever subject. He thinks that the pollen toxin of the different grasses and grains is probably identical. The comprehensive report of his researches has been published in book form by R. Oldenbourg, Munich, 1903.

48. **Physiology of Nutrition of Fetus.**—Veit argues to prove that the fetus is nourished by the albuminoid substances in the maternal serum. A syncytiolysin is formed as a side chain of the erythrocytes and a hemolysin as a side chain of the chorionic epithelium. In this way hemoglobin is liberated from the erythrocytes and protoplasm from the deported chorionic villi. The dissolved albuminoid substances flow slowly toward the fetal circulation in the maternal blood, but those substances which are precipitated by the fetal serum do not enter the fetal circulation, and those which are precipitated by the maternal serum do not enter the maternal circulation. The fetus is nourished, therefore, by taking up the albuminoids circulating dissolved in the maternal blood, while the deported chorionic villi are dissolved in the maternal serum. The albuminoids derived originally from the fetus may return to it for its nourishment in this way. This balance may be disturbed by exaggerated deportation of villi which entails exaggerated hemolysis, hemoglobinuria, albuminuria, and weaker syncytiolysis, or by the reverse condition, insufficient deportation of villi. In the latter case the maternal organism does not suffer so much, but the nourishment of the fetus is, perhaps, not so good. The anatomy of the pregnant uterus is, therefore, the key to the question whether there is a defective "Anlage," inflammation, or any cause that may induce an exaggeration or insufficiency of the normal deportation of villi. He appeals for further research in this line, and urges that broad points of view should be adopted and trivial contradictions between the results of single investigators should be overlooked in the search for the underlying principles.

50. **Diagnostic Value of Tuberculin in Keratitis Parenchymatosa.**—Enslin remarks that in an already inflammed eye we can not expect a decisive local reaction to an injection of tuberculin. The characteristic of the general reaction to Old Tuberculin in case of a tuberculous affection is the steep rise and steep decline of the temperature, which commences to be apparent in ten to twelve hours after the injection. This reaction was marked in all his cases in which the keratitis was of tuberculous origin, whether accompanied by lues or not, but it did not occur in any case of syphilis only. In the eight cases of associated tuberculosis and lues this temperature reaction occurred in two after .1 mg. of the Old Tuberculin; in five after injection of 1 mg.; in one after injection of 3 mg. The height to which the temperature rises is less important for the diagnosis than the typical steep peak in the curve, subsiding to the previous temperature within twenty-four hours. The absence of the general reaction speaks in favor of the syphilitic nature of the keratitis, and the steep peak of the temperature curve for its tuberculous nature. In leprosy and actinomycosis the rise is more gradual and lasts longer.

51. **Myosarcoma of Stomach.**—Moser reports from Frankfort what he claims to be the first successful operation on a myosarcoma of the stomach. He also describes a similar case operated on at Greifswald, which terminated fatally. Three other cases are on record of extensive resection of the stomach wall for myoma, with one recovery, but in the latter case the tumor was found to have a sarcomatous center. In the personal case described the stomach appeared to be normal in size and outline and the tumor was supposed to originate in the kidney or suprarenal, although the urine was normal. It was reached by a lumbar incision according to Bardenheuer, and found to be in the posterior wall of the stomach, with the normal pancreas closely adherent, requiring resection of the latter; the excised portion measuring 14 cm. and the tumor itself weighing about 1,500 gm. The defect in the stomach wall required 26 Lembert sutures, with a second tier of 32 sutures. Silk was used. The cavity was then rinsed with warm solution of boric acid and tamponed. The operation was done by Pernice and lasted two hours. The patient made a smooth recovery. She was a iipara of 41, and has had no stomach symptoms since, but previously had had occasional pains since her twentieth year, with eructations and bad taste in her mouth. No signs of a tumor had been noticed until shortly

before the operation. The lumbar incision was carried as far up as needed, and a hard bolster placed under the body, which rendered possible the access to the upper portion of the cardia, a region hitherto considered inaccessible. The mistake in the diagnosis unmistakably facilitated the operation.

58. **Reform in Infant Clothing.**—Assmus has been testing a number of substances to supplant the customary diapers for infants. He is much pleased with the results obtained by using an extremely absorbable material in a bag, with a double thickness of mull between it and the skin of the child. This absorbable cushion sucks up all the fluid in urine and feces at once and the child is dry all the time, requiring no changing except at morning and night except after defecation. As all the fluid in the feces is absorbed at once by the cushion, they do not spread and escape as with ordinary diapers. The cushion has also deodorizing properties, so that there is no smell of urine about the child nor in the room from diapers hung out to dry. When the child is taken up its garments and bed are always dry. The soft cushion fits and adapts itself comfortably to the child's body. The substance which fulfills all these conditions is bog moss (Moostorf), which has an absorbing capacity to sixteen times its own bulk. The experiences with it to date have been extremely satisfactory and it certainly realizes a great improvement and saving of expense in the care of the children of the poor. The moss and bags, etc., are supplied by the Berlin firm of E. Cohn Reisner, Neue Friedrichstrasse 65. Berlin C.

60. **Antitoxin Treatment of Tetanus.**—Schuckmann reports a case that terminated fatally the day after a second injection of Behring's antitoxin. He reviews the published statistics and remarks that the best method of administering it can be deduced from the following figures. In twenty cases the antitoxin was injected into the brain, with 25 per cent. recoveries; in three into the veins, with 33 per cent. recoveries; in forty-three the injections were subcutaneous, with 51 per cent. recoveries, and in ten the injections were subdural, after lumbar puncture, with 80 per cent. recoveries. In fourteen cases treated without serum the proportion of recoveries was 57 per cent., and in seventy-six cases treated with serum it was only 47 per cent. He does not believe that the serum treatment is of any appreciable advantage in cases of tetanus

Riforma Medica, Palermo.

64 (XVIII, 213-4.) I limite di resistenza dei vene per i diuretici. Donzello.
65 (No. 215-6.) La influenza della bile sulla resistenza dei globuli rossi (red corpuscles). G. Viola and B. Tarugi.
66 (No. 217-8.) Un caso di cisti della testa (cyst in head of) del pancreas ed epatite sifilitica simulante perfettamente la cirrosi di Hanot. L. Ferrannini.
67 (No. 219.) Sulla plastica col grande omento (plastic operations with omentum). A. Soraci.
68 (No. 220.) Sulla coagulazione del liquido di idrocele per azione del latte umano (by action of human milk). G. G. Ferrandi and E. Giannelli.
69 (No. 221.) Gli estratti alcalini degli organi di animali sani (of healthy animals) nella immunita versa el carbonchio ematico (anthrax). F. Tusini.
70 (No. 222-3.) Contributo casistico-clinico sulla cura dell' uremia con il veratrum viride. A. Oliare.
71 (No. 224-231.) *Il ferro nell'organismo sano (iron in healthy organism), nella leucemia e nella cloro-anemia. C. Bartoletti.
72 Il fegato infettivo (infectious liver) in una forma morbosa non ancora cognita (hitherto unknown). Galvagni.
73 (No. 232-3.) Contributo sperimentale alla fisiologia del nucleo caudato. D. Lo Monaco and G. Bellanova.
74 (No. 234.) A proposito dell'inlezioni endovenose d'ossigeno nell' uomo (in man). C. Bernabei. Claim for priority.
75 (No. 236.) Alcuni appunti sulla sensibilità di tensione del ventriculo (sensibility to tension of the stomach). P. F. Arullani.
76 (No. 237.) Su 2 casi di rumore musicale del cuore. M. De Vivo.
77 (No. 238.) *Sul significato e sull'importanza della citodiagnosi nelle meningiti dei bambini (of children). L. Concetti.
78 (No. 239-242.) *Intorno all' influenza del micrococco tetragono sul processo tubercolare del polmone (of lung). A. Michelazzi.
79 (No. 243.) *Sugli effetti dell'ischemia temporanea dell' apparecchio tireo-paratiroideo. C. Pinto.
80 (No. 244.) *Sulla glicosuria surrenale: ricerche dirette a determinarla nell' organismo umano. S. Barba.
81 (No. 245-247.) Osservazioni istologiche sui granulomi infettivi. T. Secchi.
82 (No. 248-9.) Essudati e trasudati. A. Jardini.
83 (No. 250.) Vomito stercoraceo di origine isterica. F. Fazio. One case. Cured by massage and suggestion.
84 (No. 252.) *Sugli effetti dello svuotamento (excision) della sostanza midollare delle capsule surrenali. G. Vassale and G. Zanfrognini.
85 (No. 253-5.) Ricerche sperimentali ed osservazioni anatomo-patologico intorno alla miocardite segmentaria. G. Giacomelli.
86 (No. 256-7.) *Tabe dorsale ed aortite. P. F. Arullani.
87 (No. 258-260.) Contributo allo studio dell anacloridria. Ricerche sulle putrefazioni intestinali e sulla medicazione iperclorinica. L. Ferrannini. Two cases.
88 (No. 261-2.) *Sull'agglutinabilità del bacillo tubercolare per sieri differenti e sua importanza diagnostica. A. Ilvento.
89 (No. 263-4.) Metamerismo midollare e metanerismo radicolare nella siringomielia. L. Ferrannini.
90 (No. 265.) Sul potere (power) patogeno che il bacillo coli esercita nel cane (in dogs). G. Loy-Peluffo.
91 (No. 266.) Negative Action of Freezing Alternating with Thawing on Bacteria of Cholera, Typhoid, Diphtheria and Glanders. F. Testi.—Azione de geli e disgeli alternati sulla vitalita e virulenza di alcuni batteri patogeni.
92 (No. 267.) Le cardiopatie eredo-familiare e congenite. G. Arnone.
93 (No. 271-2.) L'azione del (action of), nitrato d'argento nella vaginale del testicolo leso ed infiammato ed infetto (in inflammation of testicle). V. Montesano.
94 (No. 273.) Caso di fibroleiomioma dello stomaco. G. Zironi.
95 (No. 274.) *Contributo allo studio dell'anasarca essenziale. P. Bacialli.
96 (No. 275.) *Sulla disvulnerabilità degli eppilettici. V. Tirelli.
97 Benefits from Local Application of Balsam of Peru in Ulcerative Cutaneous Tuberculosis. G. Silva.—Sulla cura della tuberculosi ulcerosa cutanea. Ten cases.
98 (No. 276.) Il metamerismo secondario degli arti (of limbs). L. Ferrannini.
99 (No. 277.) Depressing Local Action of Cocain on Intestinal Absorption. A. Baldacci and G. Guidi.—Azione della cocaina sull' assorbimento intestinale.
100 (No. 278.) *Dangerous Alteration of Canned Meats. G. Grixoni.—Su una pericolosa e poco nota alterazione dell carni conservate.
101 (No. 279-282.) *Sulla Linitis plastica del Brinton. A. Folli and U. Bernadelli.
102 (No. 283-285.) *Physio-pathology of Phosphorus Intoxication. A. Cevidalli.—Lo stato del sangue nell' avvelenamento da fosforo con considerazioni sulla fisiopatologia dell' intossicazione fosforica.
103 (No. 286.) Study of Sheep Pox. E. Tabusso.—Contributo allo studio delle lesioni istologische nel variolo ovino.
104 (No. 287-9.) *Study of Extensive Resection of Intestine. G. Fantino.—Nuovo contributo allo studio delle estese resezioni intestinali.
105 (No. 290.) Experimental Closure of Bladder Defect by Flap from Abdominal Wall. L. Baldassari and R. Finotti.—Trattamento delle perforazioni vescicali con trapianti.
106 (No. 291-2.) *Delle ernie della vescica (hernias of bladder). G. Baroni.
107 *La Milza nei bambini. F. Sarcinelli.
108 (No. 293.) *Su di alcune questioni relative ai corpi acetonici. G. Satta.
109 (No. 295.) Indirizzo alla cura del lupus erithematodes. R. Campana.
110 (No. 296.) Cisti epiteliale del pancreas e cancro del fegato (liver). G. Cavazzani.
111 (No. 297-8.) Patogeni dell' anemia perniciosa progressiva. G. Finzi.

71. **Elimination of Iron in Health and Disease.**—Bartoletti's long article on this subject establishes that subcutaneous injection of iron in health causes an increase for the first few days in the amount eliminated in the urine. As a general rule he found that the proportion was 2.89 to 2.14 on a mixed diet and 5.19 on a meat diet, but the quantity of urine voided during the twenty-four hours must always be taken into account. The amount eliminated in leukemia is not appreciably less than that in health, reaching the minimum of the latter. In chloroanemia the proportion is much reduced. There does not seem to be any regular proportion between the amount of iron in the blood and the amount eliminated, even in the same individual. The decrease in the proportion of iron in the blood in leukemia and chloroanemia is not proportional to the decrease in hemoglobin. In short, he concludes that the laws regulating the elimination of iron are still totally unknown. The variations may be due to differences in the functional capacity of the kidneys.

77. **Slight Value of Cytodiagnosis.**—Concetti has been making an extensive study of the cerebrospinal fluid as a means of diagnosing meningitis in children. He finds that the predominance of lymphocytes is the expression of an irritation of the meninges of toxic origin, while the predominance of polynuclear cells and of the large mononuclears is the expression of a bacterial irritation. The polynuclear and large mononuclear cells gather to repel the invading bacteria by their phagocytic action. Cytodiagnosis thus has not the differentiating value ascribed to it by Widal and others. The formula changes as the irritation is toxic or bacterial, irrespective of the nature of the toxins or bacteria in question.

78. **Influence of Tetragonus on Tuberculous Processes.**—Michelazzi was able to protect guinea-pigs against tuberculosis

by a previous injection of cultures of the micrococcus tetragonus. On the other hand, the tuberculous process was favored when the tetragonus injection was made after tuberculous infection had been realized. He found that the lesions produced by the tetragonus alone in guinea-pigs were identical in every respect with those produced by the tubercle bacilli. Many supposed tuberculous lesions in the human lung are undoubtedly the work of the tetragonus.

79. **Effects of Temporary Ischemia of Thyroid Apparatus.**—Pinto reports that ischemia for sixteen to thirty-one hours induced parathyroid tetany in the numerous dogs in his tests. If the ischemia was maintained for more than thirty-one hours, the animals exhibited mixed phenomena or pure parathyropriva cachexia. The organs were apparently sound in the animals subjected to ischemia for twelve hours or less, when examined a month later, but those with ischemia for sixteen hours to twenty-two days still showed signs of slight alterations.

80. **Suprarenal Glycosuria.**—Barba relates his experience with three patients treated by injections of suprarenal extract. The effects were an aggravation of the general condition in a case of Addison's disease. One of the other patients was in an early stage of tabes and the other had chronic bulbar paralysis. The general health was improved in these cases and diuresis increased. No glycosuria was induced in any instance, nor in tests on healthy subjects.

84. **Effects of Excision of Medullary Substance of Suprarenal Capsules.**—Rabbits and cats died in rapidly progressive cachexia after extraction of most of the medullary substance. Partial excision did not produce any appreciable symptoms.

86. **Tabes and Aortitis.**—Arullani has observed that lesions of the aorta are very common in tabes. When a valvular affection develops in the course of tabes it is almost certain to be aortic insufficiency from dilatation of the aorta. This is due to the action of syphilis, alcohol, lead or some other intoxication.

88. **Agglutination by Tubercle Bacilli.**—Ilvento's experience has confirmed the fact that the serum and pleural effusion of tuberculous subjects are able to agglutinate the bacilli. It not only serves as a diagnostic measure but affords insight into the relative immunity of the organism in question.

95. **Traumatic Dropsy.**—The patient was a woman of 29, previously healthy, who fell into the water. In consequence, undoubtedly, of the fright and the cold, general dropsy developed.

96. **Strong Bactericidal Action of Epileptic Serum.**—Tirelli has found that the serum of epileptics is much more bactericidal than ordinary serum. It is especially active against staphylococci, and he suggests that it might be possible to utilize it to induce immunity against and also to cure staphylococcus infection. He ascribes to this peculiarity of the serum the rarity of suppurative lesions in epileptics.

100. **Liquefaction of Gelatin as Test of Canned Meats.**—Grixoni proclaims that when the gelatine in canned meats is liquified at a temperature below 64.5 F. it can be attributed to the action of living bacteria and their ferments. The meat should be considered spoiled, although it may not exhibit any other evidence of putrefaction except a splashing sound when the can is shaken.

101. **Linitis Plastica.**—The four cases described presented the clinical picture of plastic linitis, but histologic examination disclosed diffuse carcinomatous degeneration.

102. **Coagulability of Blood in Phosphorus Intoxication.**—The coagulating power of the blood was quite abolished after five days of subacute phosphorus intoxication in the tests on animals described in this communication.

104. **Resection of Intestine.**—Fantino remarks that the cases most favorable for extensive resection of intestine are those with hypertrophy of the sound portion. The first or second part of the small intestine is the best portion for such an operation. In one of the two cases he reports he failed to recognize the part of the intestine involved, and, under a mistaken impression, resected the entire colon and three feet of the small intestine. The patient survived nine months in comparatively good condition. The anastomosis was made under the same incorrect impression, and the food passing through the intestines had to travel a very roundabout route. This kept it longer in the intestines and gave more time for digestion, and to this fact he ascribes the unexpectedly favorable results secured. He suggests that the disadvantages of extensive resection of the intestine might be counteracted by modifying the technic so as to compel the ingesta to follow a circuitous route and thus have as good opportunity for digestion as under normal conditions.

106. **Hernia of Bladder.**—If the bladder alone is involved in the hernia the sac will be soft and flabby when empty and distended when full of urine. Its size also alters with change of position, coughing, etc. Pressure on it induces a desire to urinate. When the bowel is also involved besides the part with the above characteristics, the sac has a second usually the outer part, which has the characteristics of an intestinal hernia. The catheter may be passed through the urine into the sac or may aid in the diagnosis by withdrawing urine from it. After the subject has spontaneously voided his urine, an additional portion may be emitted on compression of the tumor. There may be pain in the kidney region on the side of the hernia. Resection is inadvisable unless the communication with the bladder is extremely small.

107. **Percussion of Spleen in Infants.**—If the child is held by a third person so that the spleen is at the lowest position possible, in the back, percussion applied from below, on the back, will avoid interference from other organs and afford more information than is obtainable in any other way. The child is held in a position that is neither on its back nor on its left side, but between these.

108. **Acetonuria.**—Satta investigated the influence of ingestion of fats on the elimination of acetone in ten diabetics. He found that 12 to 15 gm. of butter increased the acetone by a gram in the severer cases, but in the mild ones it had little influence. Olive oil and beef fat had a similar effect, but less pronounced.

Revue Mens. des Maladies de l'Enfance, Paris.

112 (XXI, 1.) *Splénomégalie chronique avec anémie et myélémie. Forme infantile. P. E. Weil and A. Clerc.
113 Fièvre typhoïde et entérite chez le nourrisson (in nurslings). P. Nobécourt.
114 (No. 2.) De l'esophagotomie externe pour les corps étrangers de l'esophage chez les enfants (foreign bodies in esophagus in children). G. Gross.
115 Ponction galvano-caustique des abcès retro-pharyngiens. H. Chatellier.
116 (No. 3.) Varices du crane (of skull) dans le rachitisme. C. Aubertin.
117 Action de la vaccination sur la coqueluche (on whooping cough). G. Ponchon.—Extremely Favorable.
118 Tubercules du cervelet (in cerebellum). Lymphocytes et bacilles de Koch dans le liquide cephalo-rachidien. P. Nobécourt and R. Voisin. One case.
119 Anémie infantile pseudo-leucémique. Traitement arsénical. Guérison (recovery). Mahar and others.
120 Strophulus post-vaccinal. H. Gillet.
121 *Valeur des linges (linen) stérilisés contre les infections cutanées des nourrissons (of nurslings). W. Weill Agnel.

112. **Chronic Splenomegalia with Anemia and Myelemia.**—Study of the blood shows that splenic anemia comprises lymphogenic leukemia and myelogenic leukemia in nurslings as well as in adults. The prognosis is grave, but not inevitably fatal in the infantile form. Treatment to date has not given very encouraging results. Iron and arsenic are the main reliance, but Combes has reported good results from administration of bone marrow, and Pietro of the extract of fresh spleens.

121. **Sterilized Linen for Infants.**—This communication from Lyons states that during the last few months the diapers and garments used for the infants in the hospital have been sterilized in the same way as the dressings, etc., for surgery. The outfit for each babe is wrapped in a separate cloth, arranged in order and then sterilized and handled as little as possible. The attendants disinfect their hands as for assisting at an operation before taking up the babe. They find that the extra trouble is more than compensated by the prevention of cutaneous affections and the rapid healing of those observed when the infant is first received. This method of aseptic care of infants has been found to pay in the saving of both time and trouble in the end, beside the advantages for the child.

Revue de Therapeutique, Paris.

122 (LXX, 1.) Les tendances nouvelles de la thérapeutique. C. Bouchard. See THE JOURNAL of February 21, p. 545.
123 Le traitement des néoplasmes par le suc de tumeurs carcinomateuses. Bra.—Claim for Priority.
124 Preparations aqueuses de menthol. Crésantignes.
125 (No. 2.) *Du moment opportun de la cure thermale chez les uterins (hot springs in uterine disease). R. Blondel.
126 *Traitement médical des fistules anales. A. De Vevey.
127 (No. 3.) La theocine. J. Chevalier.
128 Les rayons *x* dans l'examen du foie (radioscopy of liver). Bergonié.
129 *L'enteroclyse dans la dysenterie algue et chronique. V. Belleli.
130 (No. 4.) Nouvelles médications hémostatiques. A. Chassevant.
131 *Sérothérapie antistaphylococcique. E. Doyen.
132 (No. 5.) *Traitement de la goutte. Debove.
133 Les sels d'atropine et leurs indications en thérapeutique oculaire. A. Darier.
134 L'anesthésine en rhino-laryngologie. A. Courtade.

125. **Hot Springs in Uterine Affections.**—Blondel proclaims that, aside from the acutely inflammatory and painful stage and from absolutely irreducible lesions and tumors, a course of hot mineral springs waters may be found beneficial at any phase of a uterine affection. The menstrual period is no contraindication, on the contrary, the system is in a peculiarly favorable receptive condition at such times. The "thermal cure," as the French call a course of treatment at the hot springs, is particularly beneficial in the leucorrhea of anemic subjects, in congestion of the uterus in arthritics, in chronic parametritis, in physiologic menstrual troubles, and in uncomplicated ovarian pains, also in cases of chronic and rebellious vaginal discharges in herpetic and arthritic women. After the thorough working over of the soil, therapeutics is more effective, and instead of waiting to advise the waters as a last resort, he advises prompt resort to them as a most valuable adjuvant in uterine affections.

126. **Medical Treatment of Anal Fistulas.**—De Vevey reports five cases of anal fistula in which surgical intervention was impracticable, and in which he succeeded in curing the patients in the course of six to eight months by repeated injections of a 2 to 2.5 per cent. solution of copper acetate. He irrigated the parts three times a week with this solution, applying it on a compress in the interim, and insisting on the patient's reclining. He also gave internally guaiacol and small doses of dilute copper acetate.

129. **Flushing the Intestines in Dysentery.**—Belleli practices at Port Said and has found injections of a liter of tepid water to which 20 to 40 drops of carbolic acid have been added, so useful in dysentery that he is inclined to regard them as almost a specific for this disease. The colics and flatulence subside and the recurring exacerbations are less frequent and less painful. If the buttocks are raised 25 to 30 cm. above the level of the head, the water flows into the transverse colon without the need of any special apparatus. It is then rapidly voided. In chronic dysentery there is usually recurrence of the painful spasmodic attacks every fifteen to thirty days. It is probably due to some peculiarity in the life cycle of the amebæ, and can be prevented, or at least modified, by giving the injections in a mucilaginous vehicle and adding an astringent. He has found the following combination useful: 50 to 60 gm. of althea in 2 liters of water, with 3 to 5 gm. of tannin and 30 to 40 drops of carbolic acid. It is wise to vary the astringent at times, substituting 2.5 to 4 gm. of alumnol to the 2 liters of water. This enteroclysis must be accompanied by the administration at the same time by the mouth of 2 or 3 gm. of bismuth salicylate a day, to soothe the erethism of the gastrointestinal tract. The salicylate may be alternated with dermatol, tannigen or vaccinum myrtillus. He gives the latter in a decoction. Opium should be strictly avoided.

131. **Antistaphylococcus Serum.**—Doyen complains that little attention has been paid to his announcement of the success of the serum he has produced by means of inoculation of animals with the *Staphylococcus aureus*. It has proved more powerful and more constant in its effects than any other serum yet known in experiences with hundreds of cases. At the early stages of a furuncle or abscess a single injection of 5 c.c. is usually sufficient. The pain and tension cease in two or three hours and the lesion is aborted. In a large carbuncle complicated by diffuse phlegmon, the elimination of the necrosed portions proceeds so rapidly under the influence of the serum that in six to eight days nothing remains of the lesion except a small red granulating surface. The serum was applied in a case of severe phlebitis of the ophthalmic vein and cavernous sinus, with bilateral ophthalmia and delirium. The patient recovered, although the infection had been so severe that the sight of one eye was lost. The improvement was rapid in a case of phlebitis of the cavernous sinus consecutive to a carbuncle on the temple, the patient already in coma. The sore throats and other lesions due to the staphylococcus yield to the serum with equal promptness, but it has no influence on streptococcus infections. One of its most promising applications is in simultaneous injection with antitetanus serum in cases of complicated fractures, extensive contusions and soiled wounds. In a recent case of this kind, a complicated fracture of both legs in a railroad accident, in which amputation seemed inevitable, under this combined serum treatment the patient made a smooth recovery and his legs were saved.

132. **Treatment of Gout.**—Debove warns that gouty subjects are the most difficult patients to handle. They have notions of their own in regard to medicines and argue with the physician at every step. On the other hand, they are extremely credulous as far as quacks are concerned. He remarks that morphin is the most admirable of all remedies in the treatment of the accidents of acute, painful gout, while it is the most deplorable of all in the chronic form.

New Patents.

Patents of interest to physicians, March 3 and 10:

721773. Optical apparatus. Eugene W. Beebe, Milwaukee, Wis.
721999. Producing casein. Aubrey D. Charles, Bellows Falls, Vt.
722102. Nasal dish. Harry L. Harris, New York.
722019. Instrument for removing blackheads. A. A. C. Hildebrandt and N. W. Johnstor, Chappaqua, N. Y.
721812. Hernial truss pad. Paul A. Lorenz, Dresden, Germany.
722121. Suspensory bandage. James L. Lupfer, Swatara Township, Dauphin County, Pa.
721963. Pad for hernial belts. Florentin Matuchet, Paris, France.
722130. Vaginal syringe. Donald McPherson, Palmyra, N. Y.
722133. Surgical needle. John A. Nelson, Owensboro, Ky.
721737. Movement cure apparatus. Charles Owens, Chattanooga, Tenn.
721752. Compressed air spray. Loyd Scruggs, Omaha.
721768. Making India rubber surgical instruments. Bertram G. Work, Akron, Ohio.
722203. Hypodermic needle. Charles D. Brooke, Coshocton, Ohio.
722503. Disinfecting apparatus. Eugene Fournier, Paris, France.
722594. Electrical instrument. Myron D. Law, New York.
722598. Electrical generator and distributor for medical use. Edwin L. Madden, Kanawha, Iowa.
12097. Re-issue, bottle for medicine. Charles W. McShane, Zanesville, Ohio.
722456. Stretcher. James E. Reeves, Philadelphia.
722542. Surgical instrument. Nathan J. Smedley, Chicago.
722462. Exercising apparatus. Frederick D. Smith, New York.
722644. Abdominal supporter. Eva M. Temple, Portland, Ore.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1903. A Yearly Digest of Scientific Progress and Authoritative Opinions in All Branches of Medicine and Surgery, Drawn from Journals, Monographs, and Text-Books of the Leading American and Foreign Authors and Investigators. Arranged, with Critical Editorial Comments, by Eminent American Specialists, under the Editorial Charge of George M. Gould, A.M., M.D. In Two Volumes. Volume I, Including General Medicine. Cloth. Pp. 691. Price, per volume, $3.00 net. Fully Illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

PRACTICAL PHYSIOLOGY. By A. P. Beddard, M.A., M.D., Demonstrator of Physiology, Guy's Hospital; Leonard Hill, M.B., F.R.S., Lecturer on Physiology, the London Hospital; J. S. Edkins, M.A., M.B., Lecturer on Physiology, St. Bartholomew's Hospital; J. J. R. MacLeod, M.B., Demonstrator of Physiology, the London Hospital, and M. S. Pembrey, M.A., M.D., Lecturer on Physiology, Guy's Hospital. Illustrated in Numerous Diagrams and Tracings. Cloth. Pp. 495. Price, $5.20. London: Edward Arnold. New York: Longmans, Green & Co. 1902.

SURGICAL ANATOMY. A Treatise on Human Anatomy in Its Application to the Practice of Medicine and Surgery. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. In Three Volumes. Illustrated by 499 Plates, Nearly All Drawn for This Work from Original Dissections. Volume III. Abdomen; Pelvic Cavity; Lymphatics of the Abdomen and Pelvis; Thorax; Lower Extremity. Cloth. Pp. 816. Price, per set, $21.00. Philadelphia: P. Blakiston's Son & Co. 1903.

MANUAL OF BACTERIOLOGY. By Robert Muir, M.A., M.D., F.R.C.P. Ed., Professor of Pathology, University of Glasgow, and James

Ritchie, M.A., M.D., B.Sc., Reader in Pathology, University of Oxford. American Edition (with Additions), Revised and Edited from the Third English Edition. By Norman MacLeod Harris, M.B. (Tor.), Associate in Bacteriology, the Johns Hopkins University, Baltimore. With 170 Illustrations. Cloth. Pp. 565. Price, $3.75. New York: The Macmillan Co. 1903.

DISEASES OF THE STOMACH. A Text-Book for Practitioners and Students. By Max Einhorn, M.D., Professor in Clinical Medicine at the New York Post-Graduate Medical School and Hospital. Third Revised Edition. Cloth. Pp. 534. Price, $3.50 net. New York: Wm. Wood & Co. 1903.

ANNUAL REPORT OF THE NEW YORK STATE REFORMATORY AT ELMIRA. For the Fiscal Year Ending Sept. 30, 1902. Twenty-seventh Year Book. Illustrated. Paper. Pp. 138. Elmira: Summary Press. 1902.

BULLETIN OF THE HADLEY CLIMATOLOGICAL LABORATORY OF THE UNIVERSITY OF NEW MEXICO. Volume III, Nos. 4, 5 and 6. Paper. Pp. 9. December, 1902.

REPORT OF THE HEALTH OFFICER OF THE DISTRICT OF COLUMBIA. 1902. Cloth. Pp. 277. Washington: Government Printing Office. 1903.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., from March 7 to 21, 1903:

DeWitt, Wallace, first lieut. and asst.-surgeon, is relieved from further attendance at the Army Medical School, Washington, D. C., and will proceed to Fort McPherson for treatment and observation by the post surgeon.

McAdory, Robert J., contract surgeon, U. S. A., is relieved from duty at Camp McKinley, H. I., and will proceed to San Francisco, and report by telegraph to the Adjutant-General of the Army for further orders.

A board of officers, to consist of Col. Calvin DeWitt, assistant surgeon general, Major Louis A. LaGarde, surgeon, Major Henry P. Birmingham, surgeon, Major James D. Glennan, surgeon, and Capt. Carl R. Darnall, asst.-surgeon, has been appointed to meet at the Army Medical Museum Building, in this city, on Wednesday, April 15, 1903, at 10 o'clock a. m., for the examination of candidates for admission to the Medical Corps of the Army. The board will be governed in its proceedings by such instructions as may be communicated to it by the Surgeon-General of the Army.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 21:

A. A. Surgeon A. W. Kaines, appointment revoked, to take effect on reporting of relief.

P. A. Surgeon F. L. Benton, ordered to the Naval Station, Cavite, P. I.

Surgeon G. A. Lung, detached from the Bureau of Medicine and Surgery and ordered to the Naval Hospital, Philadelphia.

Asst.-Surgeon J. Stepp, detached from the *Isla de Luzon* and ordered home to wait orders.

A. A. Surgeon P. L. Cooke, ordered to the Naval Academy, Annapolis, Md.

Surgeon F. A. Hesler, died March 11 on board U. S. S. *Wilmington*, en route from Cavite, P. I., to Yokohama, Japan.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 19, 1903:

Assistant Surgeon-General L. L. Williams, to proceed to New York City, as inspector of the Purveying Depot.

P. A. Surgeon H. W. Wickes, relieved from duty at Cincinnati, and directed to proceed to Reedy Island Quarantine and assume command of the service at that port, relieving Asst.-Surgeon T. F. Richardson.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence, on account of sickness, for fourteen days from March 7.

Asst.-Surgeon H. C. Russell, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for temporary duty.

Asst.-Surgeon L. D. Fricks, on being relieved from duty at Cape Fear Quarantine, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for duty.

Asst.-Surgeon J. W. Kerr, relieved from duty at New Orleans, and directed to proceed to Cincinnati and assume temporary command of the service at that port.

Asst.-Surgeon T. F. Richardson, on being relieved from duty at Reedy Island Quarantine by P. A. Surgeon H. W. Wickes, to report to him for temporary duty; on expiration of said temporary duty to proceed to New Orleans and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon W. A. Korn, to report to medical officer in command at Philadelphia, for assignment to special duty.

Asst.-Surgeon J. W. Schereschewsky, relieved from duty at New Orleans, and directed to report to Surgeon G. W. Stoner, Immigration Depot, New York, for duty.

Asst.-Surgeon M. W. Glover, relieved from duty at the Immigration Depot, New York, and directed to proceed to Baltimore, and report to medical officer in command for assignment to special duty.

Asst.-Surgeon B. S. Warren, on expiration of leave of absence, relieved from duty at Washington, D. C., and directed to proceed to Cape Fear Quarantine, relieving Asst.-Surgeon L. D. Fricks, and assume command of the service at that port.

Asst.-Surgeon A. M. Stimson, relieved from duty at the Immigration Depot, New York, and directed to proceed to New Orleans, and report to medical officer in command for assignment to special duty.

A. A. Surgeon Fernando Aleman, granted leave of absence for seven days from March 8, 1903, under provisions of Paragraph 191 of the regulations.

A. A. Surgeon W. E. Patrie, granted extension of leave of absence for seven days from March 13.

Pharmacist R. H. Gibson, granted leave of absence for twenty-three days from March 9. Relieved from duty at the Gulf Quarantine Station, and directed to proceed to Vineyard Haven, Mass., and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist L. P. Hall.

Pharmacist F. L. Brown, on being relieved from duty at Cape Charles Quarantine, to proceed to Pittsburg, Pa., and report to medical officer in command for duty.

Pharmacist C. W. Stephenson, to report to chairman of board of examiners at Chicago, for the purpose of determining his fitness for promotion to the grade of pharmacist of the second class.

Pharmacist L. P. Hall, on being relieved from duty at Vineyard Haven, Mass., to proceed to Cape Charles Quarantine and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist F. L. Brown.

Pharmacist L. C. Spangler granted leave of absence for twenty-five days from March 4.

BOARD CONVENED.

Board convened at Chicago, March 31, 1903, for the purpose of examining C. W. Stephenson, pharmacist of the third class, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Surgeon C. E. Banks, chairman; Asst.-Surgeon L. P. H. Bahrenburg, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 21, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 7-14, 4 cases.
California: Berkeley, March 4-11, 1 case; Los Angeles, Feb. 28-March 7, 5 cases; Sacramento, Feb. 28-March 7, 1 case; San Francisco, March 1-8, 8 cases.
Colorado: Denver, Feb. 28-March 7, 17 cases.
District of Columbia: Washington, March 7-14, 2 cases.
Illinois: Chicago, March 7-14, 8 cases, 2 deaths.
Indiana: Elwood, March 8-15, 1 case; Evansville, March 7-14, 2 cases.
Iowa: March 7-14, Davenport, 8 cases; Dubuque, 1 case.
Kansas: Douglas County, Feb. 1-28, 1 case.
Maine: Biddeford, Feb. 28-March 14, 8 cases.
Maryland: Baltimore, March 7-14, 5 cases.
Massachusetts: Boston, March 7-14, 1 case; Fall River, March 7-14, 3 cases; New Bedford, March 6-14, 2 cases.
Michigan: Detroit, March 7-14, 17 cases; Grand Rapids, Feb. 28-March 14, 24 cases, 1 death; Port Huron, March 7-14, 3 cases.
Missouri: St. Louis, March 8-15, 4 cases.
Nebraska: Omaha, March 7-14, 2 cases.
New Hampshire: Manchester, Feb. 28-March 14, 16 cases.
New Jersey: Camden, March 7-14, 1 case; Jersey City, March 8-15, 3 cases; Newark, March 7-14, 1 case.
New York: March 7-14, Buffalo, 2 cases; New York, 2 cases.
Ohio: Cincinnati, March 6-13, 10 cases; Cleveland, March 7-14, 1 case; Dayton, March 7-14, 7 cases, 2 deaths.
Pennsylvania: March 7-14, Altoona, 1 case; Philadelphia, 44 cases, 5 deaths; Pittsburg, 48 cases, 2 deaths.
South Carolina: Charleston, March 7-14, 3 cases; Greenville, Feb. 28-March 7, 2 cases.
Tennessee: Johnson City, Feb. 28-March 7, 14 cases; Memphis, March 7-14, 2 cases; Nashville, March 7-14, 1 case.
Washington: Colfax, March 1, present.
Wisconsin: Green Bay, March 8-15, 3 cases; Milwaukee, March 7-14, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Jan. 3, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 14-28, 20 cases.
Belgium: Brussels, Feb. 14-28, 9 deaths.
Brazil: Pernambuco, Jan. 15-31, 10 cases; Rio de Janeiro, Feb. 5-12, 8 deaths.
Canada: St. John, N. B., March 13, 1 case.
Chile: Antofagasta, Jan. 1-31, 13 deaths.
Ecuador: Guayaquil, Feb. 7-21, 1 death.
France: Rheims, Feb. 8-15, 2 cases; Reubaix, Feb. 1-28, 6 deaths.
Great Britain: Birmingham, Feb. 21-28, 11 cases; Cardiff, Jan. 25-31, 1 case; Glasgow, Feb. 27-March 6, 1 death; Leeds, Feb. 21-28, 9 cases; Liverpool, to Feb. 28, 60 cases, 7 deaths; Nottingham, Feb. 14-21, 4 cases; Sheffield, Feb. 28-March 7, 2 cases.
India: Bombay, Feb. 10-17, 36 deaths; Calcutta, Feb. 7-14, 2 deaths; Karachi, Feb. 8-15, 1 case; Madras, Jan. 31-Feb. 6, 1 death.
Italy: Palermo, Feb. 21-28, 5 cases.
Mexico: City of Mexico, Feb. 22-March 1, 7 cases, 4 deaths; Vera Cruz, Feb. 28-March 7, 1 case.
Russia: Moscow, Feb. 7-21, 11 cases, 2 deaths; Odessa, Feb. 14-28, 4 deaths; St. Petersburg, Feb. 14-28, 100 cases, 9 deaths.
Straits Settlements: Singapore, Jan. 17-31, 10 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 5-12, 40 deaths.
Colombia: Panama, Feb. 26-March 5, 2 cases, 1 death.
Mexico: Vera Cruz, Feb. 28-March 14, 7 cases, 4 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Dec. 27-Jan. 31, 6 cases, 4 deaths; Provinces, Dec. 27-Jan. 31, 1,985 cases, 1,436 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Dec. 27-Jan. 3, 3 deaths.

PLAGUE—FOREIGN.

India: Bombay, Feb. 10-17, 888 deaths; Calcutta, Feb. 7-14, 171 deaths; Karachi, Feb. 8-15, 23 cases, 19 deaths.
Mexico: Mazatlan, to March 13, 313 cases, 255 deaths; Oro, to Feb. 15, 1 case.